Petitioner Study #1 - Illustrative Site Plan

MEDICAL CITY PLANO SITE PLAN LEGEND

1. Future MOB; 5 story ; 20,000 SF/FL
   <Building parapet at +/-76'-0" ; Stair tower roof at +/-86'-0">
2. Future MOB; 2 story ; 20,000 SF/FL
   <Building parapet at +/-35'-0">
3. Tower C Vertical Expansion; Level 4-8
   <Parapet at 126'-10" ; Stair tower roof at 142'-0"; Elevator tower roof at 142'-0">
4. Future MOB; 4 story ; 20,000 SF/FL
   <Building parapet at +/-62'-0" ; Stair tower roof at +/-72'-0">
5. ANC Expansion
   <Building parapet at +/-20'-0", parapet height at 4'-0">
6. Future Garage; +/-1021 Spaces; 6 Story
   <Parapet at +/-56'-0", Stair tower roof at +/-67'-0";Elevator tower roof at +/-67'-0">
7. Rehab Expansion; Level 1-7
   <Building parapet at +/-111'-0" ; Stair tower roof at +/-122'-2">
8. Women's Tower; Level 1-6
   <Building parapet at +/-95'-10" ; Stair tower roof at +/-107'-0">
9. Future Garage; +/-2300 Spaces; 10 Story
   <Parapet at +/-96'-0", Stair tower roof at +/-107'-0";Elevator tower roof at +/-107'-0">
10. Masonry Fence; 8'-0"
11. 50'-0" Setback Greenspace with Trees.
12. Oxygen Tanks.
    <Larger tank height at 33'-0"; Smaller tank height at 15'-0"; Vaporizer height at 22'-0">
13. A minimum 3ft berm or retaining wall and 6 ft ornamental metal fence shall be installed along the eastern property boundary line for a minimum of 270 ft.
14. Residential Buffer Line

A. Tower C Entry
B. ED Ambulance Entry
C. ED Walk-in Entry
D. Rehab Entry
E. MOB Entry
F. Main Entry
G. Ambulance Drive

0 80' 160' 320' 480'

Petitioner Study #2 -Zoning Exhibits and Explanations

Medical City Plano

Zoning Exhibits and Explanations

Topic	Area of Concern/Question	Findings	Support Exhibit/Document(s)
C Tower expansion **(Adding 4 floors to existing)**	Shadow that will be created by taller tower on adjacent residential area	**Solar study** submitted by MCP measures 5 days in the year, covering every season, and identified limited impact of shadows on the apartment complex. Solar study submitted by opposition was based on one day of the year in February, with shortest duration of sunlight.	Solar Study
	Why Burn and Trauma beds cannot be relocated and expanded in another proposed tower	It is imperative for Burn and Trauma patients to be located as close as possible to the Emergency Department (ED) and Operating Rooms (OR). Burn patients have an extremely high infection risk, and Trauma patients require immediate intervention for lifesaving care. A **Time Study** was performed and concluded that placing these patients in other proposed towers would significantly extend their transport to the ED/OR. With patients of this acuity, every minute matters. A **Clinical Commentary** was provided to give clinical rationale, along with evidence from research studies, to support this need. A **Land Use Narrative** was provided, explaining the need for C Tower expansion and helipad relocation, as well as why other towers could not function for Burn/Trauma patients.	Time Study MCP Clinical Commentary on Time Study Land Use Narrative
Helipad Relocation **(From ground level to C Tower roof)**	Increased noise	A **Helicopter Noise Analysis** was conducted to model the noise generated with the helipads relocated. It was found that the sound level only increased from 94 dB to 95 dB, which would not be, or barely be, perceptible (a change of 3 dB is just noticeable, 6 dB is clearly noticeable). It also concluded that the duration of the noise itself would be less, because the helicopter would not need to hover all the way to the ground, instead landing at ~120 feet. The simulation did not include shielding that would be gained from the rooftop of Tower C, which would further improve sound.	Helicopter Analysis

Medical City Plano

	Greater safety risk	The opposition submitted an opinion on the noise and safety of moving the helipads to the roof. The sound study (referenced above) rebuts the noise concern, and the helicopter in the provided photo of the crash on a hospital roof that was determined to not be a model that is used by any agency in the DFW area. MCP submitted a **Rooftop Helipad Rebuttal** provided by FEC Heliports to address specific concerns raised in the opposition's presentation, specifically correcting inaccurate information and providing justification as to why moving the helipads to the roof is the safest option.	Plano Rooftop Helipad Rebuttal
Stewardship	Addressing Concerns of Neighbors	MCP held a **series of meetings with stakeholders to gain feedback** on the Master Plan. MCP met with representatives of Aspen Court Apartments owner on 11/29/21. The greatest concern raised was specifically around the helipads being relocated to the roof of C Tower and subsequent noise. As a result of this and other neighborhood meetings, a sound study was conducted (referenced above). MCP held two neighborhood feedback sessions and subsequent meetings with representatives of Cromwell Court cul-de-sac, who were most vocal about their concerns. The major concerns raised, as well as changes made, are listed below: • <u>Noise from helipad relocation</u> – sound study (referenced above) conducted and identified the difference to be indiscernible • <u>Original location of parking garage</u> – Based on this feedback, MCP relocated the parking garage to another area of campus to accommodate this request • <u>Disruption of through traffic of deliveries to back dock of hospital and privacy</u> – Green space was added along property line to buffer noise from traffic and allow privacy	MCP Master Plan - Feedback Changes Made from Resident Feedback

		• Fence along property line in disrepair – MCP committed to replace the entirety of the fence along the property line and will work with residents to identify ideal fencing solution • General issue resolution – MCP acknowledged the need to have open communication with neighbors to address any issues as they arise, and committed to have an open dialogue with residents should concerns or issues arise in the future	
	Request by Staff to assess relocation of oxygen tank area	MCP assessed relocating the oxygen tank area and determined that this would not be feasible. Installing a new tank and switching over from existing to new tank creates unnecessary patient safety risk for those patients in-house, and there was not an alternative location identified that would allow a relocation of this vital resource. This was not requested by residents or mentioned as a concern in any stakeholder meetings.	
	Request by Staff to assess alternate options to C Tower expansion	MCP is providing **two illustrative concept plans** for bed expansion as alternatives to building upon the existing C Tower. • Option A: Significantly impacts fire lane access and ambulance routing per code, would require loss of 15 existing patient rooms to allow for connection to existing C Tower, would require longer travel distances to ED/OR for burn and trauma patients, would still require relocation of helipads to C tower roof, and would require relocation of planned 10-story parking garage (location 10), potential loss of planned Women's tower (location 9), and loss of planned MOB (location 1). • Option B: Significantly impacts fire land access per code, would require a connector too close to property line, would also require longer travel distances to ED/OR for burn and trauma patients, would impact adjacent homeowners as they voiced concerns specifically around having an occupied hospital tower in that location, would require potential loss of	 Illustrative Concept Plan

		future MOB (location 5), and may impact access to the dock and central plant.	
Property Value of Apartment Complex	Expanding C Tower and moving helipads to roof will decrease apartment owner's property value and will impact rentability	Aspen Court Apartments touts on their website that the complex is "within walking distance to Medical City Plano, the city's largest hospital". This indicates that the property owner understands that having a complex close to a large, tertiary hospital with comprehensive services is a selling point for renters, rather than a deterrent.	 Aspen Court Website Verbiage

Petitioner Study #3 - Land Use Narrative

Medical City Plano Land Use Narrative

This land use narrative intends to (A) provide an overview of the request, (B) provide clinical support and justification for this request, (C) and provide a detail summary of community engagement, feedback, and responsive changes.

A. Request

Located at the north corner of Coit & W 15th Street, Medical City Plano is requesting a zoning change to allow for much needed modifications to their campus. There has been a high demand for hospital services given the growth and aging of the community, and Medical City Plano is working hard to meet these demands while continuing to provide high-quality healthcare to our residents.

The modifications to the zoning are necessary for the proposed additional height to Tower C for additional patient rooms, additional garage space, relocation of the helipads, and other standards necessary to accommodate these changes. Within the existing campus, the requested changes were designed in order to provide the best patient care and clinical outcomes possible for our high-acuity patients. Physicians and clinical leaders consulted include Chief of Staff, Critical Care Medical Director, Burn Services Medical Director, Trauma Surgery Medical Director, Plano Fire-Rescue EMS Medical Director, and PHI Air Transport Medical Director.

The current Medical City Plano facility is located within PD-129 (as well as an S-609 for helipads) and potential expansion areas are located within PD-137. The intention of this request is to consolidate the zoning into one Planned Development.

B. Support and Justification for the Request

Burn/Trauma/Critical Care Services

- Currently, the hospital's Burn, Trauma, and Critical Care units are located within close proximity of each other in the northern region of the main campus building, including in the C Tower. The expansion of C Tower will allow Burn, Trauma and Critical Care bed capacity to increase while still ensuring these services are located as close to the Emergency Department (ED) and Operating Rooms (ORs)—and as close to each other—as possible.
- Proximity to ED and ORs
    - This minimizes patients' time of exposure and reduces safety risks associated with critical injuries. Some of these risks include burn shock, hypothermia, airway issues, and serious infection.
    - Critically injured patients need constant and continuous resuscitation efforts, and if not located proximal to vital resources, can cause a delay in provision of care.
    - In addition to this, acute/critical patients will need to be transported to and from the OR for operative procedures while unstable, often for multiple procedures over the course of several weeks to months—this reinforces the need to provide the closest route possible to the OR.

    - Placing patients in this tower allows the care teams to utilize a dedicated patient elevator, thus reducing risk of exposure and infection. This is the only tower with dedicated elevators for patient care.
- **Proximity of Critical Care, Burn and Trauma Units to Each Other**
    - Burn patients often sustain traumatic injuries, requiring the expertise of both the Trauma and Burn teams. With this expansion, the Trauma Unit and Burn Unit would remain within immediate distance of each other, allowing ease of access for both teams to be readily available to care for these highly-acute patients.
    - These ICU-level units share highly specialized, ancillary support staff (i.e., physical therapists, respiratory therapists, dieticians, pharmacists, etc.) that may be needed at an urgent moment's notice to respond to the patient's emergent needs.
- **Expanding the Existing Burn Unit**
    - Medical City Plano is one of only two American Burn Association burn centers in all of DFW. The care MCP provides is highly specialized and serves a large population across North Texas and surrounding states. As it stands, the inpatient burn unit consistently remains full and needs expansion in order to continue to have capacity to serve Plano residents. Being able to provide this care close to home is extremely important, as burn patients are often in the hospital for weeks to months at a time.
    - The Burn/Trauma unit as it stands today is equipped with a specialized treatment area for hydrotherapy of wound care that would be redundant and burdensome to relocate to another area of the hospital.
    - Expanding Burn within the existing floor allows MCP to utilize existing resources most efficiently, and add more resources to allow for all-inclusive care of the Burn patient.
    - Additional services that will be added to the unit are a therapy room for physical and occupational therapy, as well as a children's play area for hospitalized Burn pediatric patients.

Need for Helipad Relocation

- Currently, MCP's helipads are located on the ground, across a driveway from the ED entrance. The C Tower expansion proposed will allow the helipads to be relocated to the roof of C Tower, which will improve safety and efficiency for critical patients, as well as for the facility, flight crews, and other patients and visitors. Feedback from helicopter pilots, Plano Fire-Rescue EMS Medical Director, PHI Air Transport Medical Director, and a helipad design consultant drove the need to relocate the helipads to the roof.
- **Improved Safety and Efficiency for the Patient and Facility**
    - The current helipads are located across the main thoroughfare leading to the ED entrance, accessed by both ambulances as well as private vehicles. When critical patients arrive via helicopter, security resources must deploy to halt traffic and ensure a clear path for the helicopter landing as well as for the transport of the patient after landing. This creates the potential for emergency care to be delayed on both sides – for the patient waiting in the helicopter while traffic is cleared as well as for ambulances and private vehicles seeking to access the ED.
    - Pulling security resources away from campus operations to clear traffic multiple times a day also significantly hinders the Security team's availability to respond to other security

needs on the campus. Security is highly involved across our campus, keeping both our patients as well as our staff safe.
    - Placing the helipad on the roof will expedite the transport process to the ED and ORs, ensuring critical patients receive care as quickly as possible. C Tower is equipped with dedicated patient elevators that will allow the patient to be rapidly transported from the roof to the first floor and taken to the ED or OR, without needing to wait on traffic to be cleared.
- **Improved Safety and Efficiency for Flight Crews**
    - Following previous discussions and feedback from the helicopter crews, MCP leadership met with representatives from CareFlite, Air Evac, and Petroleum Helicopters International (PHI) on 1/20/22 and 1/26/22 to review the facility master plan proposal and gain feedback on relocation of the helipads to the C Tower roof.
    - The representatives noted that relocation of the helipads to the roof would be preferable and beneficial for the following reasons:
        - Would reduce/eliminate mechanical turbulence currently experienced by landing on existing ground helipads, providing safer landing conditions
        - Allows more efficient approach and greater fuel efficiency by reducing the amount of time helicopter must hover for descent, thereby increasing the allowable flight distance
        - Decreases duration of takeoff/landing, which should have a positive impact on helicopter noise
        - Eliminates need for Security presence to clear road traffic and reduces risk for flight crew, drivers, and pedestrians
        - Provides the most efficient and direct access to the ED, ORs, and ICUs upon landing, improving care and outcomes for patients
    - The representatives have also provided feedback that any future building additions to the north side of campus (north and/or west of C Tower) would block wind flow to the current helipad location, causing it to become entirely unsafe for landing. Therefore, as MCP continues to grow to meet the demands of the community, the relocation of the helipads will become increasingly critical in serving Plano and the surrounding area.

Alternative Locations Evaluated

- MCP evaluated utilizing other proposed tower locations in the master plan for Burn, Trauma, and Critical Care expansion (please refer to the "Medical City Plano Site Plan Legend" in the submitted "Arch. Site Plan" the corresponding map location to the tower expansions listed below).
- While the Burn, Trauma, and Critical Care expansion is the current pressing need for the community, we do project needing to grow in other lower-acuity areas over the next 10-20 years. Many of these services do not require the same level of proximity to other services. Therefore, MCP has found that other areas on campus prove to be good options for those future needs.
    - 7. Rehab and Medical/Surgical (MS) Expansion (Level 1-7)
        - This proposed tower is the furthest away from the ED and ORs of all three expansion options. Placing these critical care beds in this location would

negatively impact travel time for patients to be transported to the ORs for multiple procedures, and would therefore increase risk of infection. This location is also furthest away from existing critical care units in B Tower and C Tower.

- This location does provide a good option for future Rehab and MS care expansion. Because the patients in these populations are less acute and require fewer resources, there is less risk associated with non-proximal location to the ED and ORs. While our highest current need is the expansion of Burn, Trauma, and Critical Care services, we do expect the need for a Rehab and Medical-Surgical expansion to build over the next several years.

- 8. Women's Tower (Level 1-6)
  - This proposed tower is located across the road from the main hospital building, including the ED and ORs. Locating critical care services in this tower would not be a safe option for our patients, as it would require transport of across a skybridge to the main hospital building for ED, OR, and imaging services. This would require transport on multiple elevators and through several units, which would lead to delays in critical care services in case of an emergency. This transport would also increase risk of infection and decrease privacy for patients in all areas.
  - This location does provide a good option for a future dedicated Women's Services Tower. Similar to Rehab and MS, there is less risk for this population to be located further from the ED, OR, and Imaging. This tower would include a dedicated OBED, providing women presenting in labor or with another OB emergency with a dedicated entrance and easy access to care.

In summary, the C Tower expansion project and helipad relocation is critical, due to the nature of the services provided at Medical City Plano and current growth needs. In order to provide the safest, highest quality care, we must provide the most proximal access to the ED and OR for highly acute burn, trauma, and other critical care patients. While the C Tower location is necessary for current expansion needs, other locations on campus do provide good options for other future care expansion needs, as shown on the Master Plan.

C. Community Engagement and Responsive Changes

Prior to filing this application, Medical City Plano has sought to engage the surrounding community to share the plans and solicit feedback. The hospital sent invitations to surrounding property owners and held two open forum informational sessions in order to introduce this upcoming zoning application, engage in dialogue around the master plan, and receive feedback regarding the upcoming growth. These open forum meetings resulted in multiple follow up conversations and meetings. Additionally, the hospital met with representatives of the Apsen Court Apartments.

- The biggest concern expressed by many surrounding property owners was centered around the proposed location of the parking garage and the proximity to their homes. They expressed that the number one need was to find an alternate location for the garage. Incorporating this feedback, MCP leadership purchased the office building and two-story parking garage on the west side of campus (located at #9 and #8, respectively), in order to use this land for relocating

the parking garage. MCP has revised the master plan site drawings to remove the originally proposed parking garage on the east side of campus (located at #4 and surrounding parking on site legend) and relocate parking to garage #9 and garage #6 on the site drawings. In addition, the local residents requested setback green space with tress at #11, which was subsequently added to the request.

- As a takeaway from one meeting, MCP leadership sought out a sound study to be performed on the campus by a sound engineer, in order to gain further insight into the potential effects of the future location on the relative noise levels. The sound study showed that there would be relatively no increase in noticeable noise levels (dB) with the relocation of the helipads onto an eight-story roof. Additionally, due to the height and no car/pedestrian traffic, the roof location would provide a decrease in sound duration, as no hovering and waiting would be required by pilots when coming in to land. The sound study did not consider any potential rebounding of sound waves upward by the eight-story roof; therefore, there is potential for a decrease in noticeable noise level along with the shortened duration of noise.
- Following additional feedback from the neighboring residents, MCP has made consideration for the concern of additional building height around the surrounding residential area. Additional items have been added in to the drawings in order to provide buffer space: #13 and #14. With these, MCP intends to limit any future additional building height along #14 as a buffer for the neighboring residential area. MCP will also provide a retaining wall/berm and additional greenery at #13 to block the view from both sides. We hope that these changes will help provide the best experience for our neighbors, while preserving the ability to provide the highest quality care to all who need services at MCP.

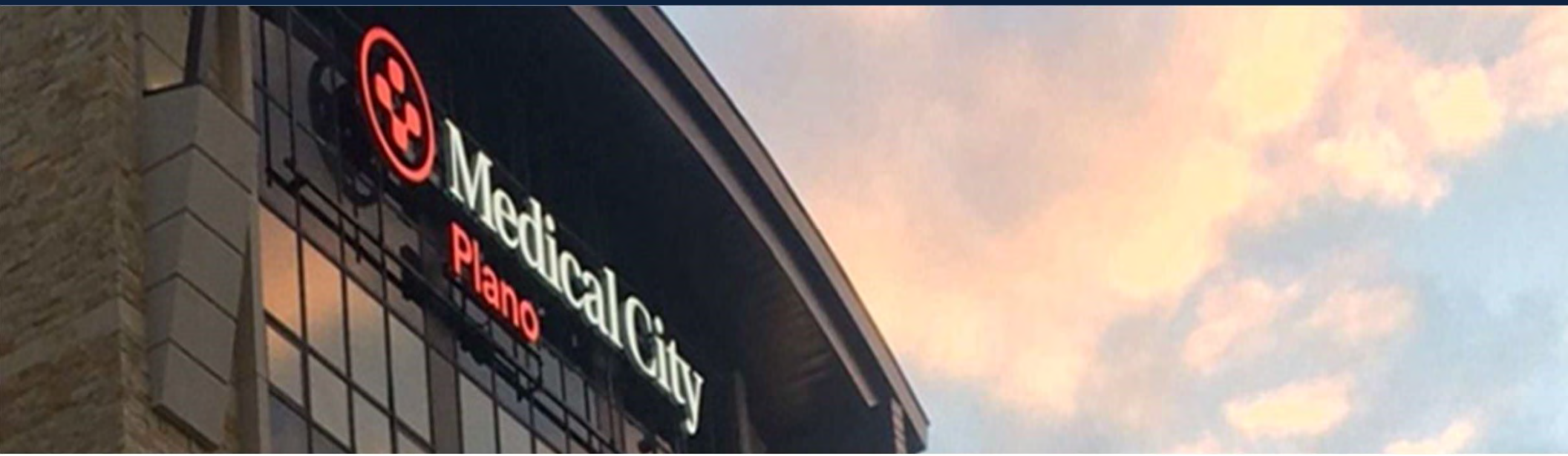
Overall, we feel that these changes still allow us to meet the needs of our patients, visitors, and staff; prioritizing clinical care, while respecting the requests of our neighboring residents.

Petitioner Study #4 - Clinical Commentary on Time Study

Medical City Healthcare

Clinical Commentary on Comparative Study of Travel Distances

Medical City Plano Master Plan



Agenda

- **Executive Summary of Time/Travel Study**
- **Clinical Implications for Burn Services**
- **Clinical Implications for Trauma Services**

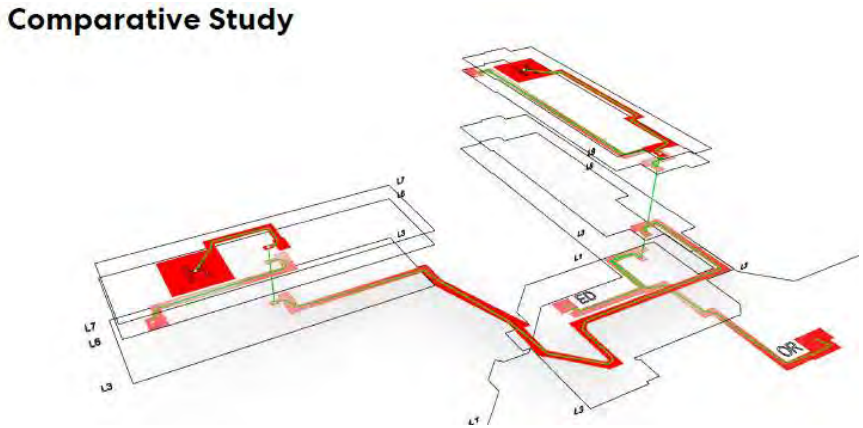
Executive Summary

Scope of Time/Travel Study

- The Women's Tower was selected as the comparative location for the time/travel study

Findings

- From the Helipad at Tower C to ED, the travel takes **2:29 minutes**
- From the Helipad at the Women's Tower to the ED, the travel takes **5:12 minutes,** almost twice the time versus Tower C
- From the furthest room in Tower C to the OR, the travel takes **3:30 minutes**
- From the furthest room in Women's Tower to OR, the travel takes **5:58 minutes**
- Women's Tower requires two elevator rides, and Tower C requires only one. This adds additional uncertainties to elevator waiting time
- Transport from the Women's Tower to the ED/OR would require transport through another ICU, which is not appropriate for patient care



Clinical Implications for Burn Patients

"Burn units require meticulous attention to design and function to minimize patient infection risk"[1]

Burn Patient Risk

- Severely burned patients require extensive care, necessitating a hospital stay of weeks or months. During their stay, **these patients are transported to the OR up to 1-2 times per week** for debridement (in which the patient's burned skin is removed to support healing of healthy tissue), and grafting (in which skin from another area of the patient's body is removed and transplanted to the affected burned area)

- "**Infection is a common complication of burn injury** caused by the loss of skin (the primary defense against micro-organisms) as well as burn-induced immunosuppression. Essentially, **survival after burn injury is determined by whether wound healing or infection predominates**"[1]

- "The movement of staff and equipment between general ICUs, ORs, and emergency departments has been documented as a cause of major outbreaks of drug resistant bacterial contamination and infections. In addition, **patient transfers are well documented to constitute a significant risk** inherent in every associated handover." [2]

- Burn patients "…with extensive wounds [release] large numbers of bacteria into the air, which contaminate the environment…" and increase infection risk in other patient populations [2]

- Burn patients experience heat loss due to being unable to regulate their body temperature, and are **at increased risk of hypothermia**, which "is associated with an increased mortality" [3]

Clinical Implications for Burn Patients

"Burn units require meticulous attention to design and function to minimize patient infection risk"[1]

Design Considerations

- "**Burn unit design must prioritize infection prevention**, including segregation and containment, environment layout and function, room cleaning, and isolation. **Burn centers should have dedicated facilities with separation of patients**, specialized room environment/equipment, and cleaning and wound care disinfection capabilities, with particular attention paid to surfaces, ventilation, temperature control, and **patient movement to the operating room, radiology, and therapy**" [1]
- "Closed units provide a contained perimeter that **minimizes unnecessary traffic** of care providers and visitors, who can act as infection vectors"[2]
- The Burn/Trauma unit as it stands today is equipped with a specialized treatment area for hydrotherapy of wound care that would be redundant and burdensome to relocate to another area of the hospital
- Expanding Burn within the existing floor allows MCP to utilize existing resources most efficiently, and add more resources to allow for all-inclusive care of the Burn patient
- Additional services that will be added to the unit are a therapy room for physical and occupational therapy (in alignment with "closed unit" recommendations), as well as a children's play area for hospitalized Burn pediatric patients

Conclusion

- Locating the Burn Unit in the proposed Women's Tower would require transport via two elevators and across a skybridge to the main hospital building for ED, OR, and imaging services. This would also require transport **through another ICU**, which would lead to delays in critical care services in an emergency and increase risk of patient infection/hypothermia. This would also put other ICU patients at increased risk for infection

Clinical Implications for Trauma Patients

Every minute in response contributes to saving a Trauma patient's life

Trauma Patient Risk

- **Immediate Response:**
  - Traumatically injured patients often arrive in cardiac arrest and/or hemorrhaging, in which time is of the essence to provide vital resources. The **average time in which a patient may bleed out from a traumatic injury is 2-5 minutes**, especially if the injury is associated with a major artery. Whether the patient is being transported to the Emergency Department or Operating Room, every minute contributes to saving the patient's life[4]
  - Trauma patients often require Massive Transfusion (MT), in which coolers of blood are delivered from the Lab to the Trauma ICU, Emergency Department or Operating Room to rapidly infuse the patient. Delays with MT are "associated with prolonged time to achieve hemostasis and an increase in mortality…**every minute from time of MT protocol activation to time of initial cooler arrival increases odds of mortality by 5%**" [5]
  - "Approximately 50% of patients in hemorrhagic shock are taken directly from the emergency department to the operating room" to address bleeding via surgical intervention. "**Prompt definitive control of this kind of hemorrhage…is unarguably essential to preserve life and minimize morbidity**" [6]
- **Critical Care:**
  - Severely injured trauma patients require extensive care, necessitating a hospital stay of weeks or months. During their stay, **these patients are transported to the OR for multiple surgeries and may require resuscitation and/or rapid response while on the unit**
  - These patients need an enormous amount of **equipment** (ventilator, IV with medications, etc.) and **multiple staff** to accompany them every time they are transported. **When a Trauma patient is transported, a Respiratory Therapist, Bedside Nurse, Patient Care Tech at minimum are required to accompany them**. Transporting these patients in a dedicated elevator is ideal to ensure all equipment and staff are available to the patient
  - **Every minute these staff members are transporting a patient from the unit, this is time away from the remaining critical patients on the unit**. Reducing the time that staff are away from the Trauma unit is essential to patient care
  - The Trauma surgeons that care for these patients on the Trauma unit need to be immediately available to respond to new trauma arrivals at a moment's notice, necessitating a location near the Emergency Department

Clinical Implications for Trauma Patients

Every minute in response contributes to saving a Trauma patient's life

Design Considerations

- Helipad location in proximity to the Emergency Department and Operating Room is crucial to ensure that the Trauma team is able to immediately respond and intervene as quickly as possible, due to the high probability of patients arriving in cardiac arrest and/or hemorrhaging. In both instances, every minute of response time is essential to saving the patient's life
- Mass Transfusion of blood is extremely time sensitive, and placing the Trauma unit or helipad elsewhere would significantly impact this critical response
- As with Burn patients, Trauma patients may require multiple surgeries and sustain open wounds (ex: fasciotomy), in which it is essential to mitigate infection risk by reducing exposure during transport
- Trauma patients require a large amount of equipment. Three staff, at minimum, are needed to transport them to the Operating Room from the ICU. Ensuring that these specialized staff members are pulled from the unit for as minimal time as possible is critical to ensure continued care for the remaining patients on the unit
- Locating the Trauma Unit in close proximity to other Critical Care Units ensures that the specialized Rapid Response team members that serve multiple ICUs are able to quickly respond to cardiac arrests on the unit
- The Trauma Unit needs to be in close proximity to the Emergency Department so Trauma surgeons can rapidly respond to new trauma arrivals at a moment's notice

Conclusion

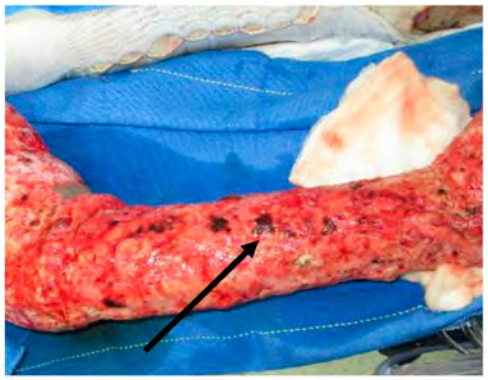
- Locating the Trauma Unit in the proposed Women's Tower will negatively affect patient outcomes by impacting timeliness of Mass Transfusion of blood, increasing infection risk, and impacting response time of Trauma and Rapid Response staff to Trauma patients on the unit
- Placing the helipads on the Women's Tower instead of C Tower would significantly impact timely response to initial arrival of Trauma patients, as transport to the ED or ORs would be significantly delayed and require two elevators, transport across a skybridge and through another ICU

Appendix

Medical City Healthcare.

Note: The following images are graphic

Examples of Infections/High Risk Patients



Burn – Invasive Fungal Infection

Trauma –Fasciotomy to reduce pressure/compartment syndrome

Citations

1) *Palmieri TL. **Infection Prevention: Unique Aspects of Burn Units**. Surg Infect (Larchmt). 2019 Feb/Mar;20(2):111-114. doi: 10.1089/sur.2018.301. Epub 2019 Jan 24. PMID: 30676249.*

2) *Gus E, Almeland SK, Barnes D, Elmasry M, Singer Y, Sjöberg F, Steinvall I, van Zuijlen P, Cleland H. **Burn Unit Design-The Missing Link for Quality and Safety**. J Burn Care Res. 2021 May 7;42(3):369-375. doi: 10.1093/jbcr/irab011. PMID: 33484267.*

3) *Ziegler B., Kenngott T., Fischer S., et al, **Burns : journal of the International Society for Burn Injuries** volume 45 issue 8 pages 1895-1900 December 2019*

4) *https://emergencycare.hsi.com/blog/stop-the-bleed-month*

5) ***"Every Minute Counts: Time to Delivery of Initial Mass Transfusion Cooler and Its Impact on Mortality".** J Trauma Acute Care Surg. 2017 July ; 83(1): 19–24. doi:10.1097/TA.0000000000001531.*

6) *Kauvar, David S. MD; Lefering, Rolf PhD; Wade, Charles E. PhD Impact of Hemorrhage on Trauma Outcome: An Overview of Epidemiology, Clinical Presentations, and Therapeutic Considerations, The Journal of Trauma: Injury, Infection, and Critical Care: June 2006 - Volume 60 - Issue 6 - p S3-S11 doi: 10.1097/01.ta.0000199961.02677.19*

Petitioner Study #5 - Time Study

Design Process Lab

HCA MC Plano Comparative Study of Travel Distances

Marcelo Bernal, Ph.D.
Marvina Williams

Perkins&Will

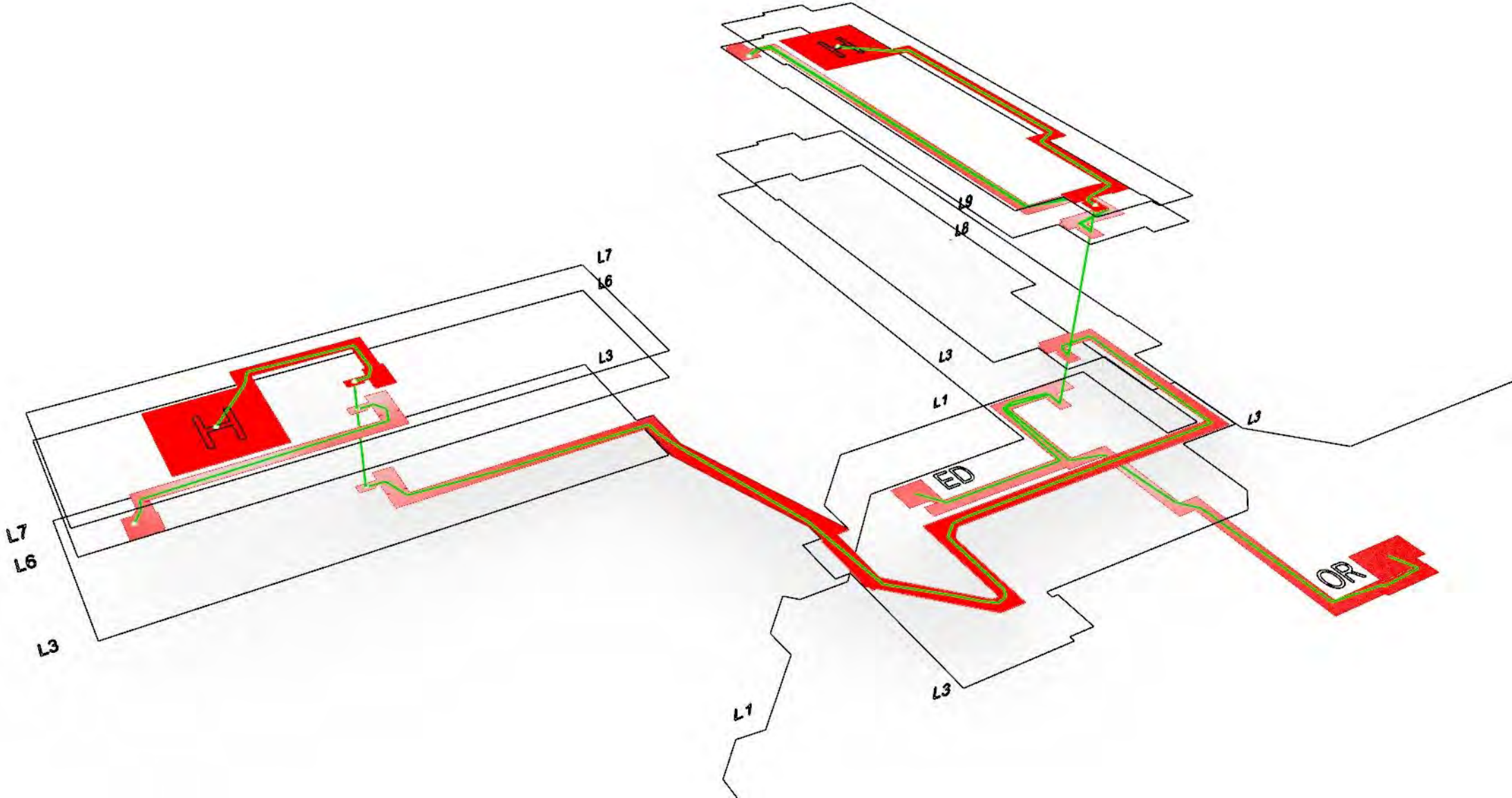
Travel Speed

Assumptions

Waiting time for elevators, elevator calling and doors opening is not taken into account for this study since this study considers an ideal state for the calculation time purposes only for several different scenarios. A data driven approach without any wait times is used in all scenarios.

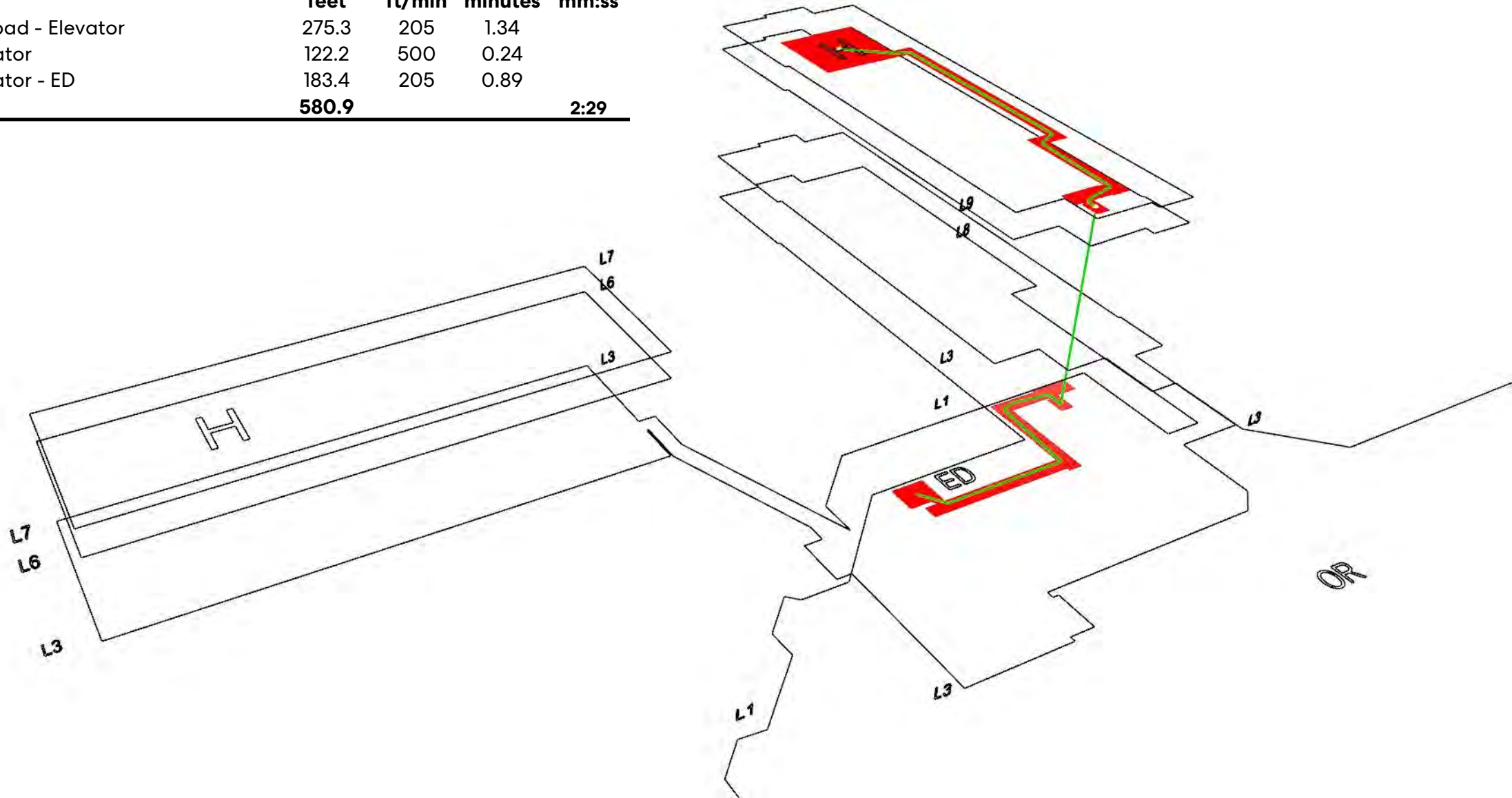
- Study is based off of the following data:
- Staff regular walking 272 ft/min
- Staff pushing a patient 205 ft/min.
- Trauma Elevator 500 ft/min
- Helipad on the roof top of Tower C versus Helipad on the roof top of Women's Tower

Comparative Study



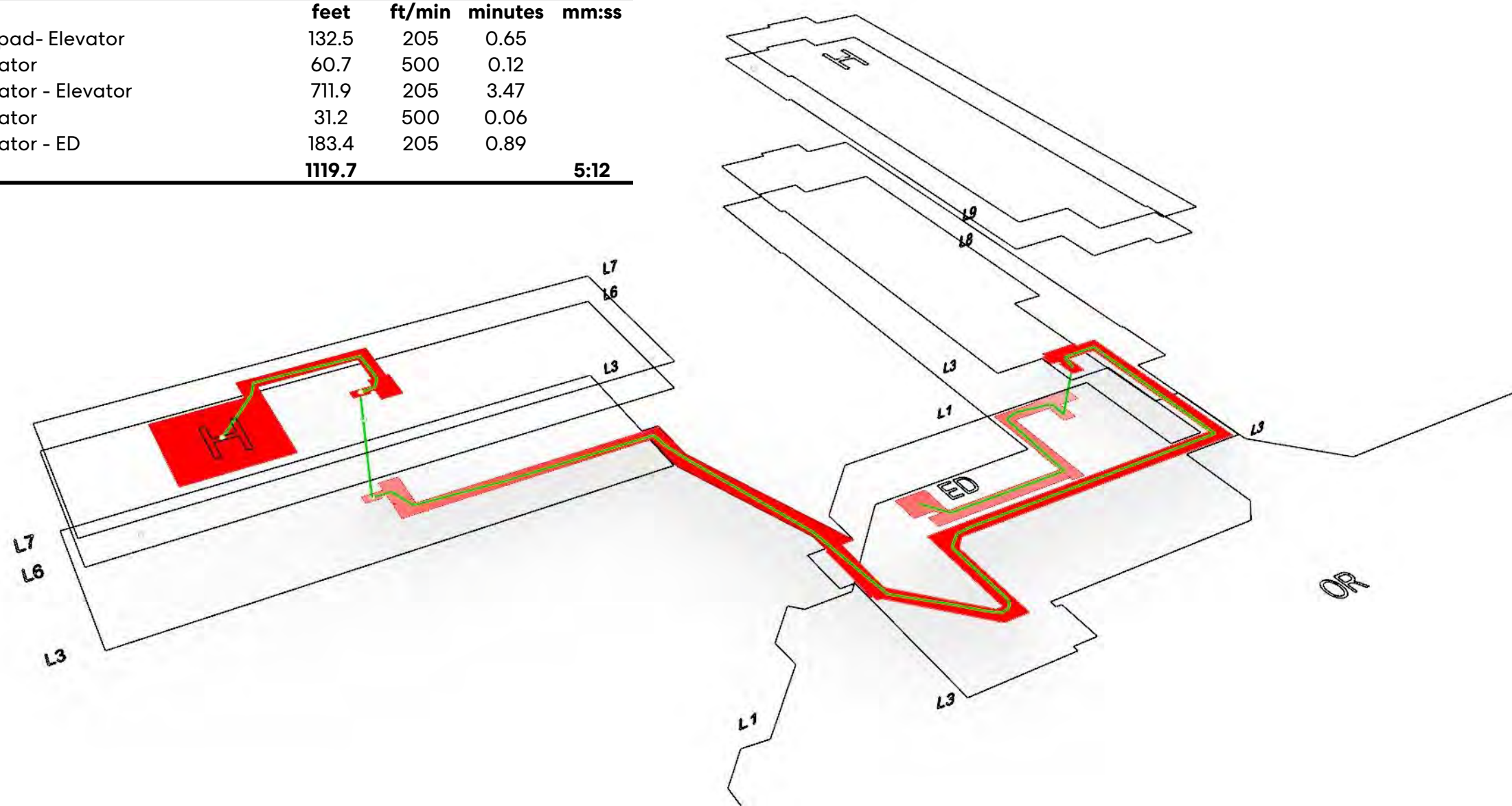
Helipad Tower C to ED

		feet	ft/min	minutes	mm:ss
L09	Helipad - Elevator	275.3	205	1.34	
L09 - L01	Elevator	122.2	500	0.24	
L01	Elevator - ED	183.4	205	0.89	
		580.9			**2:29**



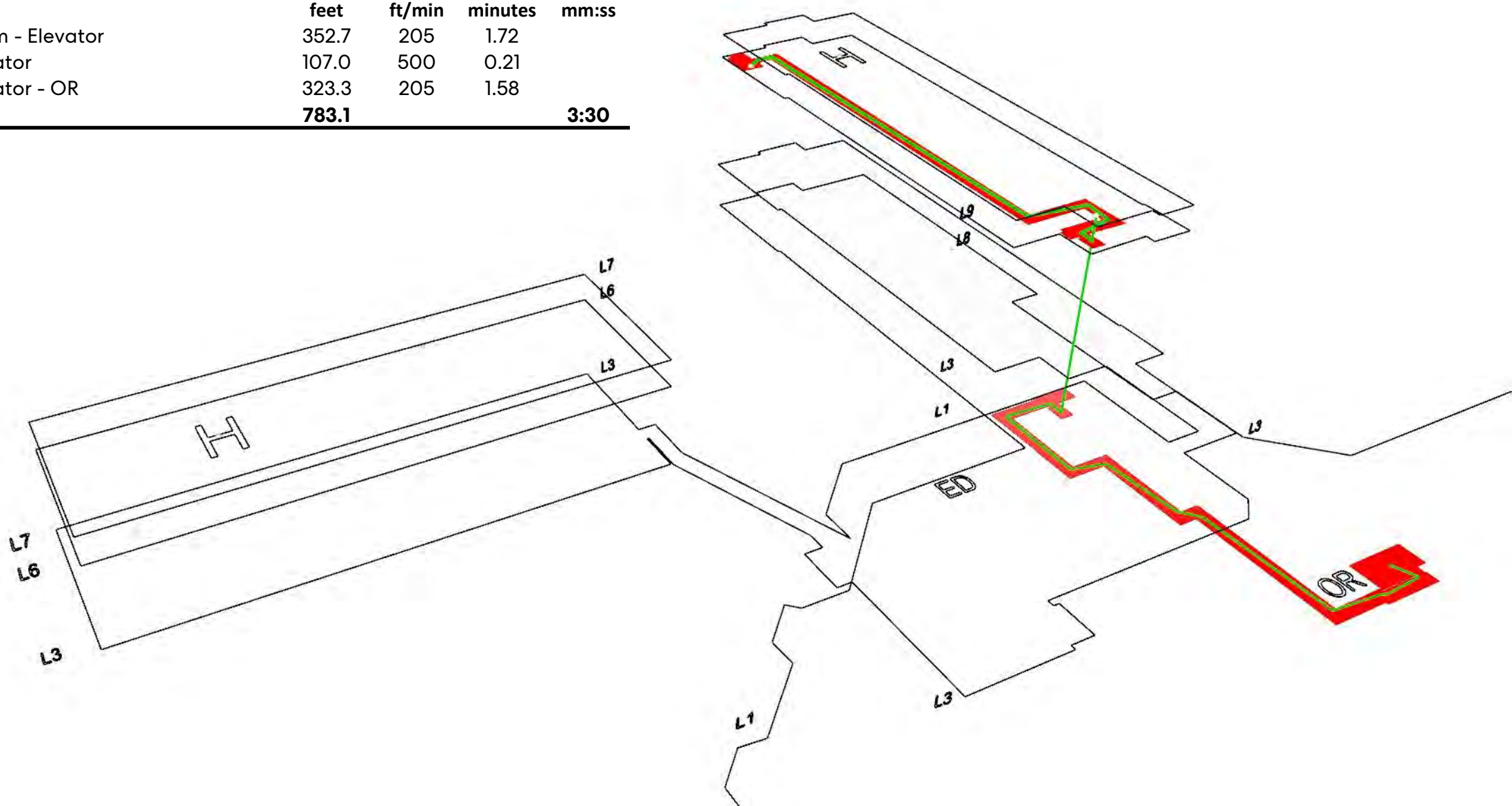
Helipad Women's Tower to ED

		feet	ft/min	minutes	mm:ss
L07	Helipad- Elevator	132.5	205	0.65	
L07-L03	Elevator	60.7	500	0.12	
L03	Elevator - Elevator	711.9	205	3.47	
L03-L01	Elevator	31.2	500	0.06	
L01	Elevator - ED	183.4	205	0.89	
		1119.7			**5:12**



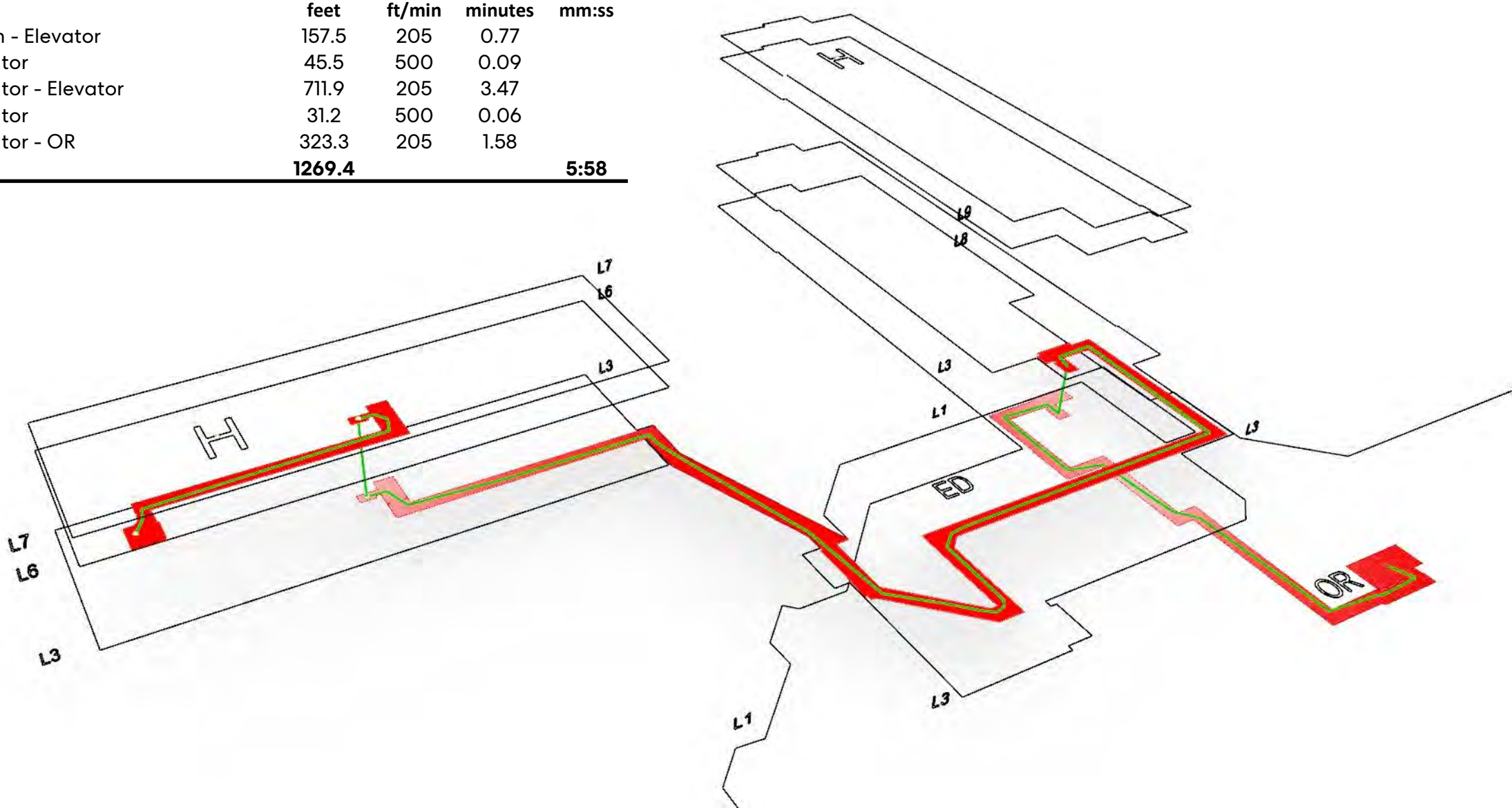
Furthest Room in Tower C to OR

		feet	ft/min	minutes	mm:ss
L08	Room - Elevator	352.7	205	1.72	
L08-L01	Elevator	107.0	500	0.21	
L01	Elevator - OR	323.3	205	1.58	
		783.1			**3:30**



Furthest Room in Women's Tower to OR

		feet	ft/min	minutes	mm:ss
L06	Room - Elevator	157.5	205	0.77	
L06-L03	Elevator	45.5	500	0.09	
L03	Elevator - Elevator	711.9	205	3.47	
L03-L01	Elevator	31.2	500	0.06	
L01	Elevator - OR	323.3	205	1.58	
		1269.4			**5:58**



Comments

All times are ideal times without factoring in wait times, elevator calling and door opening times. Basic data was used to calculate times consistently for all scenarios noted in this study.

- From the Helipad at the Tower C to ED the travel takes **2:29 minutes**
- From the Helipad at the Women's Tower to ED the travel takes **5:12 minutes,** almost twice the time versus Tower C
- From the furthest room in Tower C to OR the travel takes **3:30 minutes**
- From the furthest room in Women's Tower to OR the travel takes **5:58 minutes**
- While Women Tower requires two elevator rides, the Tower C only one, adding additional uncertainties to the elevator waiting time

Petitioner Study #6 - Solar Study

MCP CITY ENTITLEMENT

BED TOWER AREA SOLAR STUDY

08/31/2022

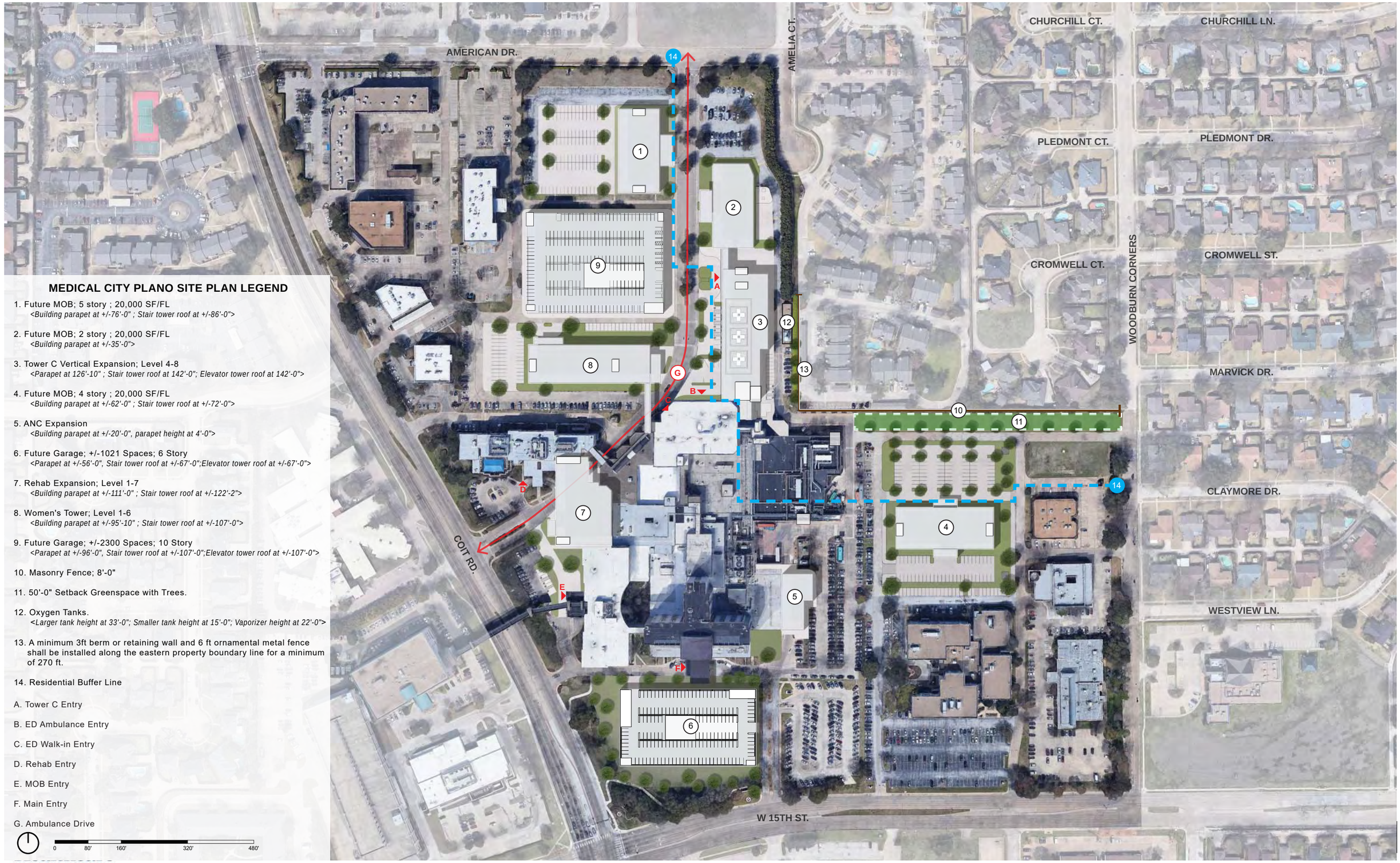
Perkins&Will

CONTENTS

SITE

STUDY OVERVIEW

SOLAR STUDY



MEDICAL CITY PLANO SITE PLAN LEGEND

1. Future MOB; 5 story ; 20,000 SF/FL
   <Building parapet at +/-76'-0" ; Stair tower roof at +/-86'-0">

2. Future MOB; 2 story ; 20,000 SF/FL
   <Building parapet at +/-35'-0">

3. Tower C Vertical Expansion; Level 4-8
   <Parapet at 126'-10" ; Stair tower roof at 142'-0"; Elevator tower roof at 142'-0">

4. Future MOB; 4 story ; 20,000 SF/FL
   <Building parapet at +/-62'-0" ; Stair tower roof at +/-72'-0">

5. ANC Expansion
   <Building parapet at +/-20'-0", parapet height at 4'-0">

6. Future Garage; +/-1021 Spaces; 6 Story
   <Parapet at +/-56'-0", Stair tower roof at +/-67'-0";Elevator tower roof at +/-67'-0">

7. Rehab Expansion; Level 1-7
   <Building parapet at +/-111'-0" ; Stair tower roof at +/-122'-2">

8. Women's Tower; Level 1-6
   <Building parapet at +/-95'-10" ; Stair tower roof at +/-107'-0">

9. Future Garage; +/-2300 Spaces; 10 Story
   <Parapet at +/-96'-0", Stair tower roof at +/-107'-0";Elevator tower roof at +/-107'-0">

10. Masonry Fence; 8'-0"

11. 50'-0" Setback Greenspace with Trees.

12. Oxygen Tanks.
    <Larger tank height at 33'-0"; Smaller tank height at 15'-0"; Vaporizer height at 22'-0">

13. A minimum 3ft berm or retaining wall and 6 ft ornamental metal fence shall be installed along the eastern property boundary line for a minimum of 270 ft.

14. Residential Buffer Line

A. Tower C Entry

B. ED Ambulance Entry

C. ED Walk-in Entry

D. Rehab Entry

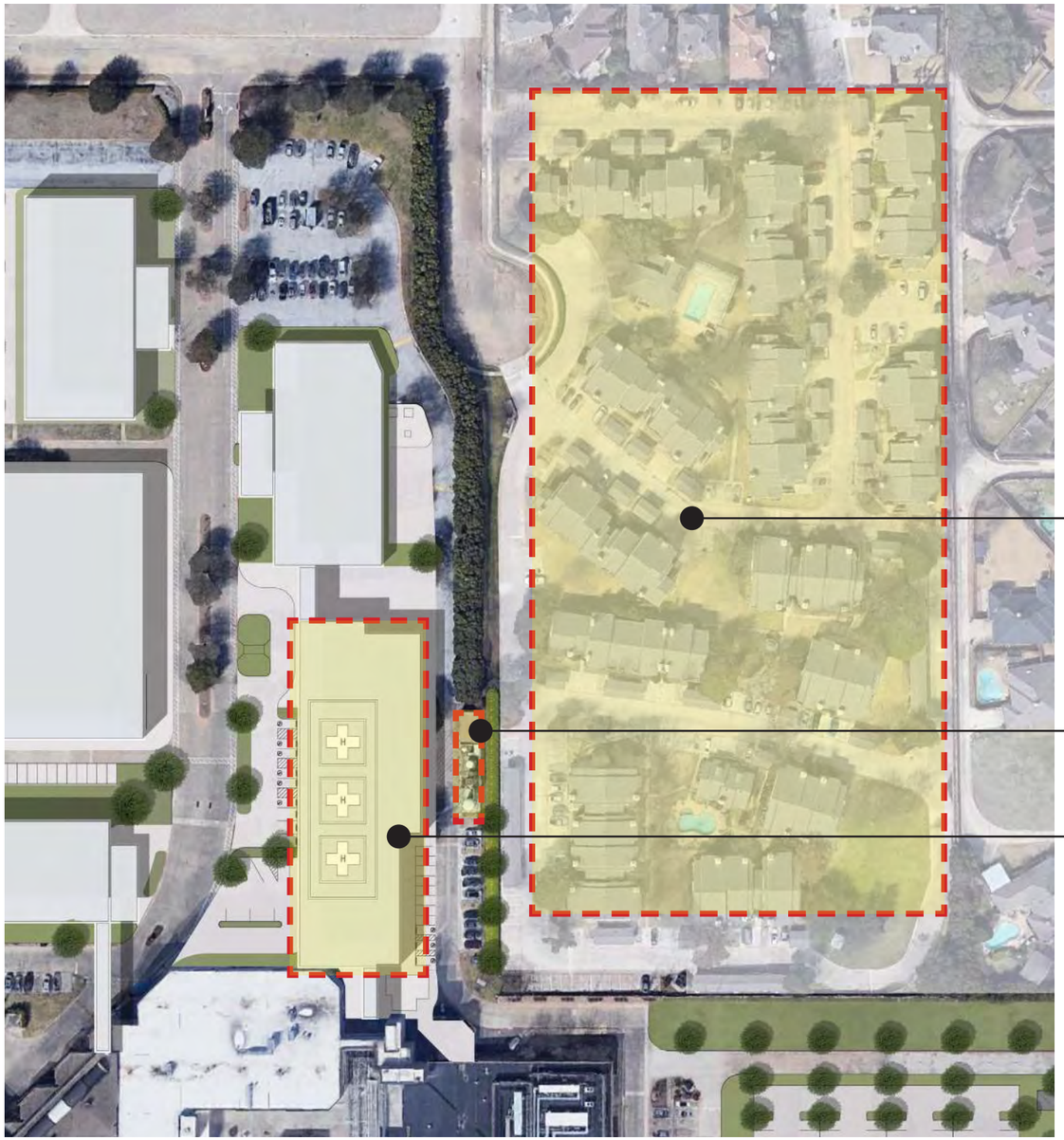
E. MOB Entry

F. Main Entry

G. Ambulance Drive

0 80' 160' 320' 480'

SOLAR STUDY AREA



ASPEN COURT APARTMENT

OXYGEN TANK
LARGER TANK HEIGHT AT 32’-0”; SMALLER TANK HEIGHT AT 15’-0”; VAPORIZER HEIGHT AT 22’-0”

BED TOWER
PROPOSED @ 8 STORY

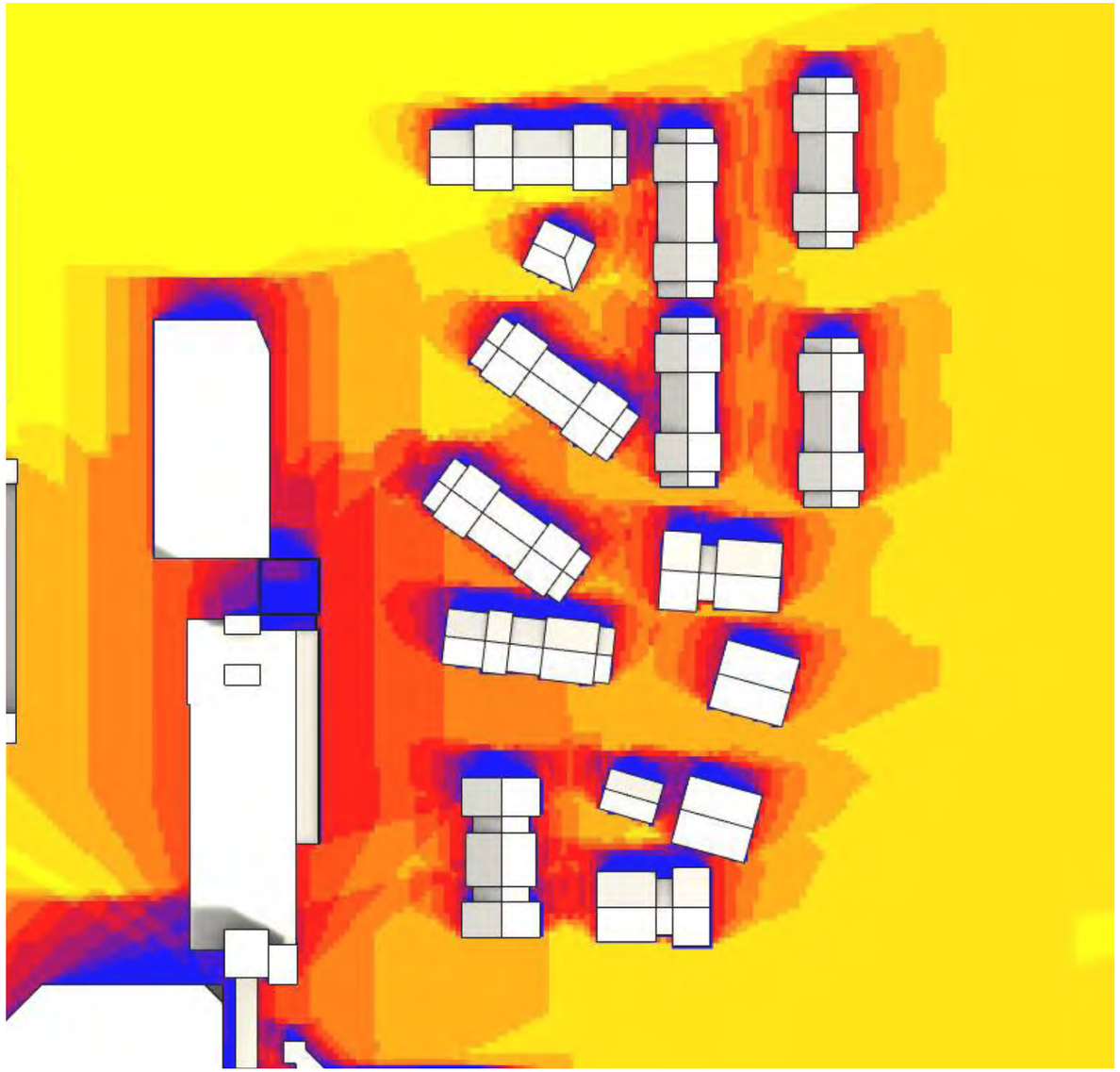
SITE PLAN

STUDY OVERVIEW

SOLAR STUDY

TWO STUDIES

SHADOW STUDY

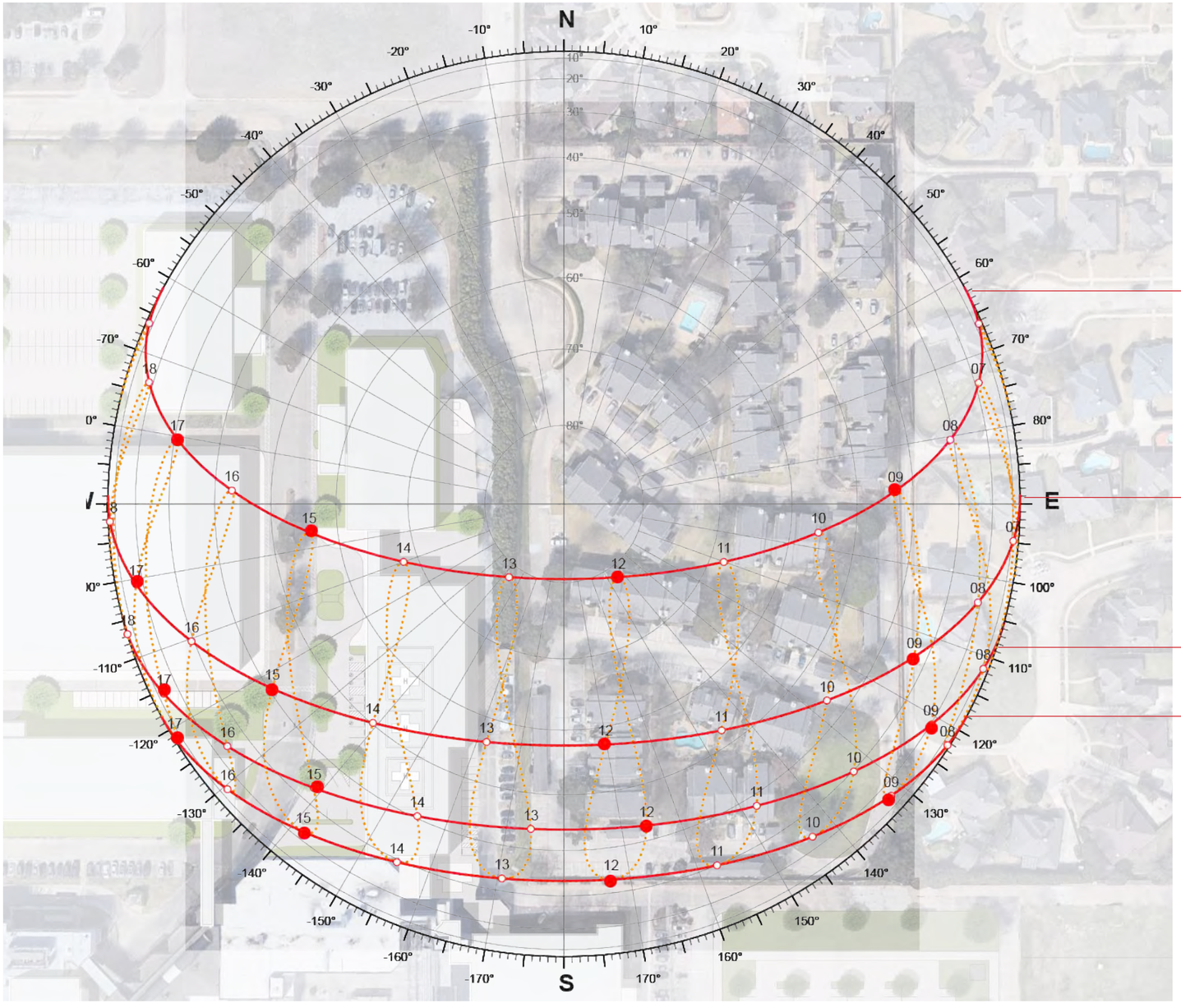


DIRECT SUN HOURS STUDY

HCA Healthcare

Perkins&Will

SELECTED DATES AND TIME



June 21st — **Summer Solstice**
9am | 12pm | 3pm | 5pm

March 21st — **Spring Equinox**
9am | 12pm | 3pm | 5pm

September 21st — **Autumn Equinox**
9am | 12pm | 3pm | 5pm

February 14th — **Opposition PPT**
9am | 12pm | 3pm | 5pm

December 21st — **Winter Solstice**
9am | 12pm | 3pm | 5pm

Two Options
a. Existing: Bed Tower @ 4 Level
b. Future: Bed Tower @ 8 Level

SITE PLAN

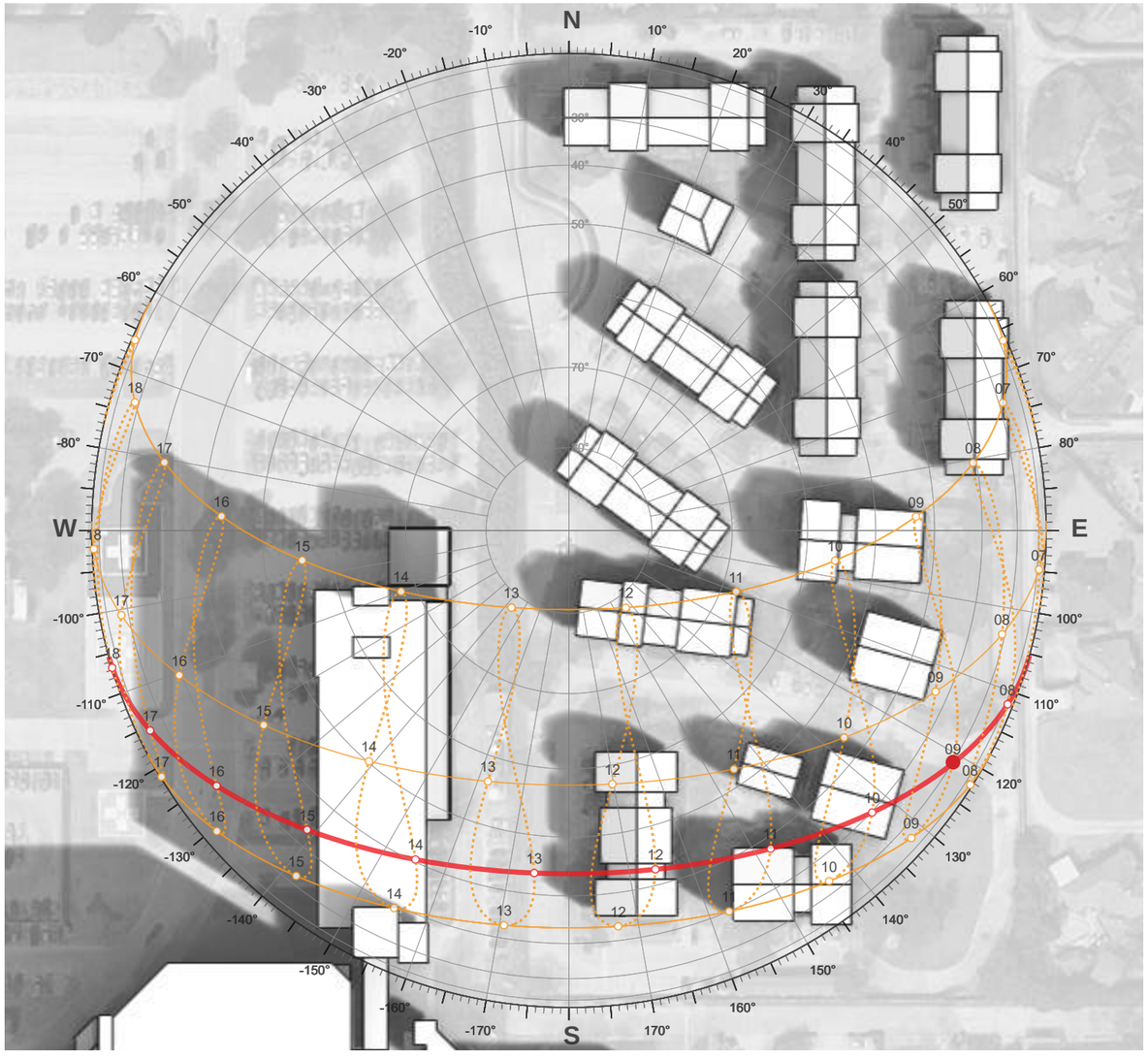
STUDY OVERVIEW

SOLAR STUDY

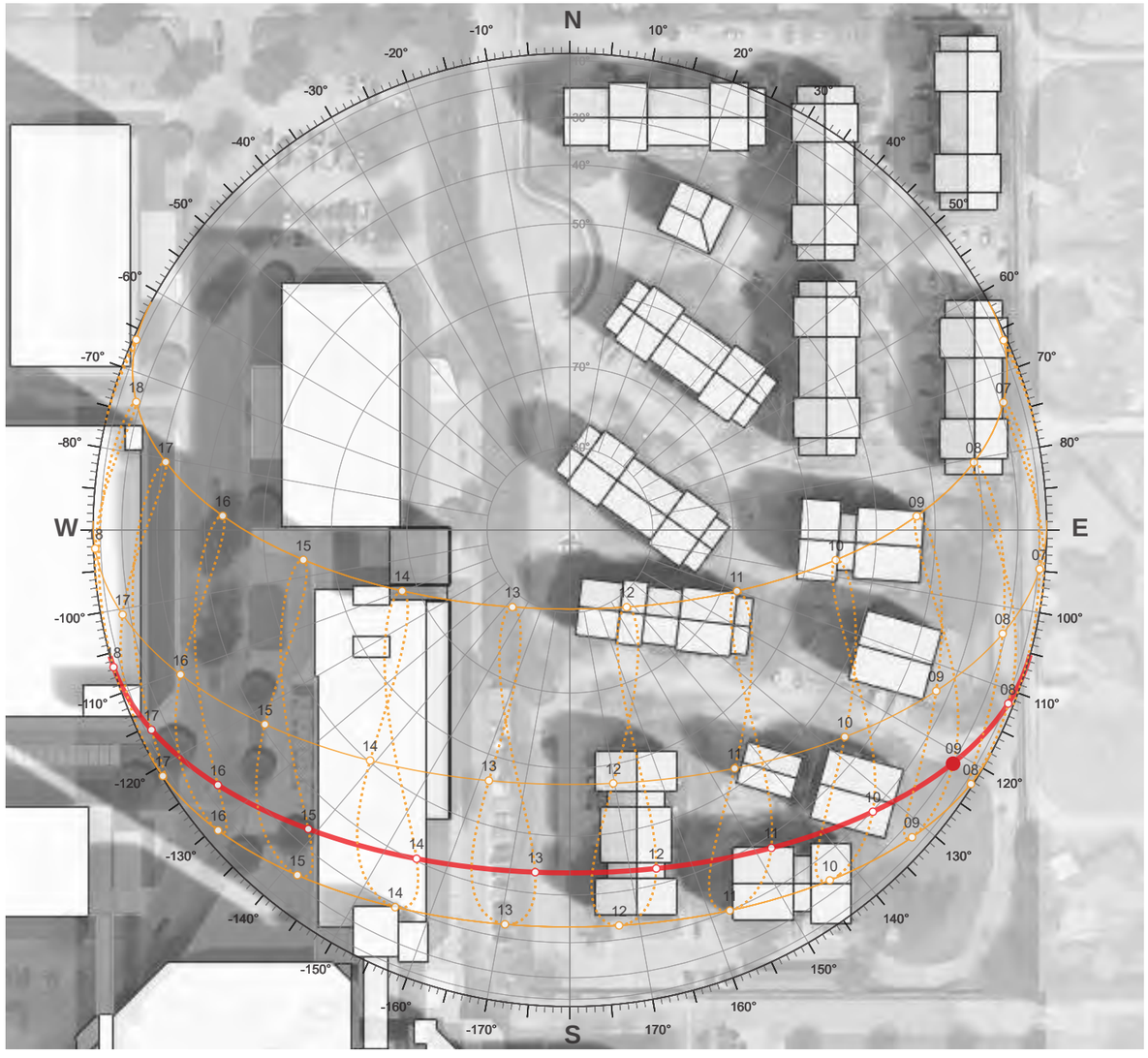
SHADOW STUDY

FEBRUARY 14TH @ 9AM

SUNRISE - 7:11AM | SUNSET - 6:11PM



EXISTING 4 STORY TOWER



PROPOSED 8 STORY TOWER

HCA Healthcare

Perkins&Will

SHADOW STUDY

FEBRUARY 14TH @ 12PM

SUNRISE - 7:11AM | SUNSET - 6:11PM

EXISTING 4 STORY TOWER

PROPOSED 8 STORY TOWER

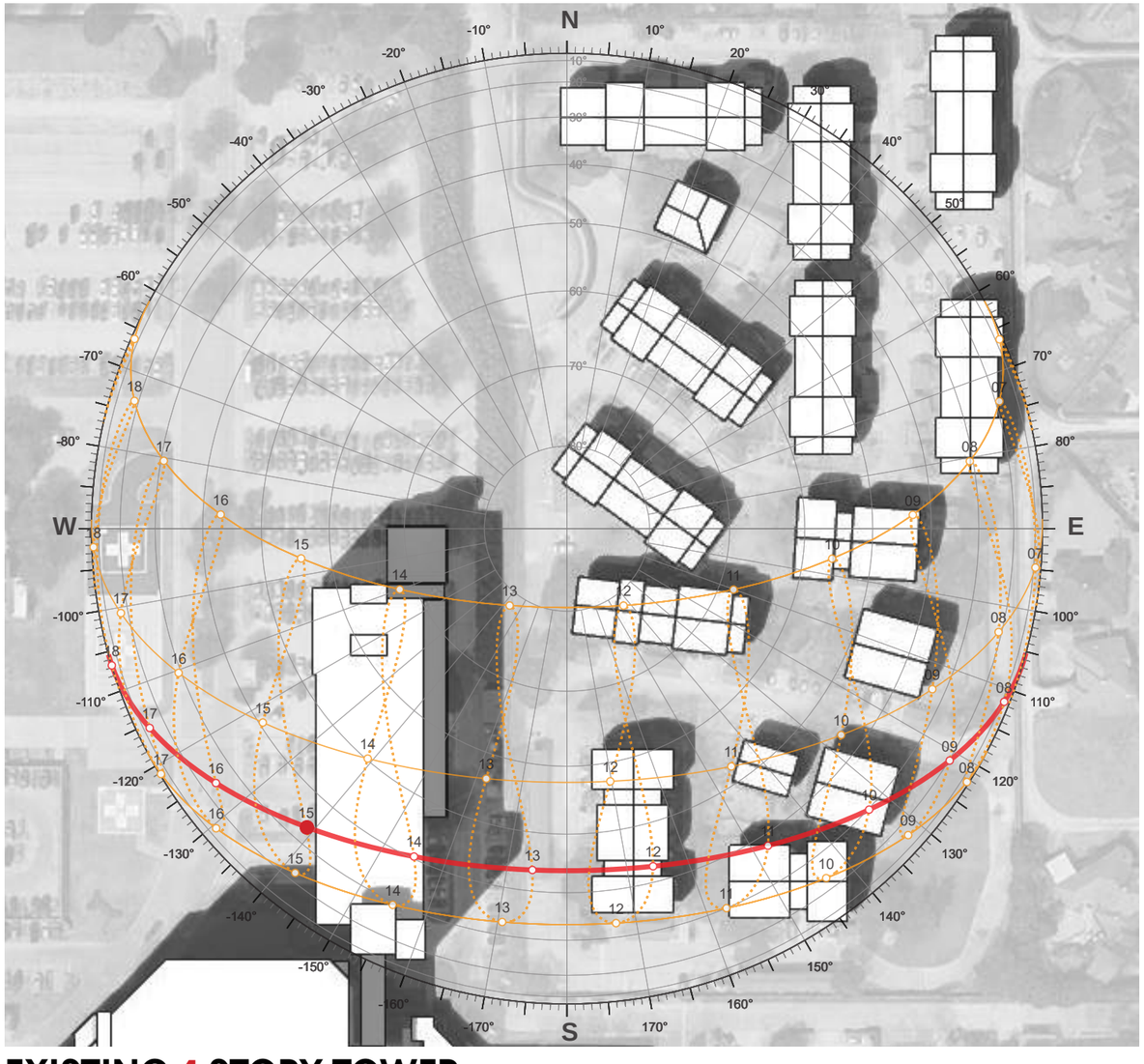
HCA Healthcare

Perkins&Will

SHADOW STUDY

FEBRUARY 14TH @ 3PM

SUNRISE - 7:11AM | SUNSET - 6:11PM



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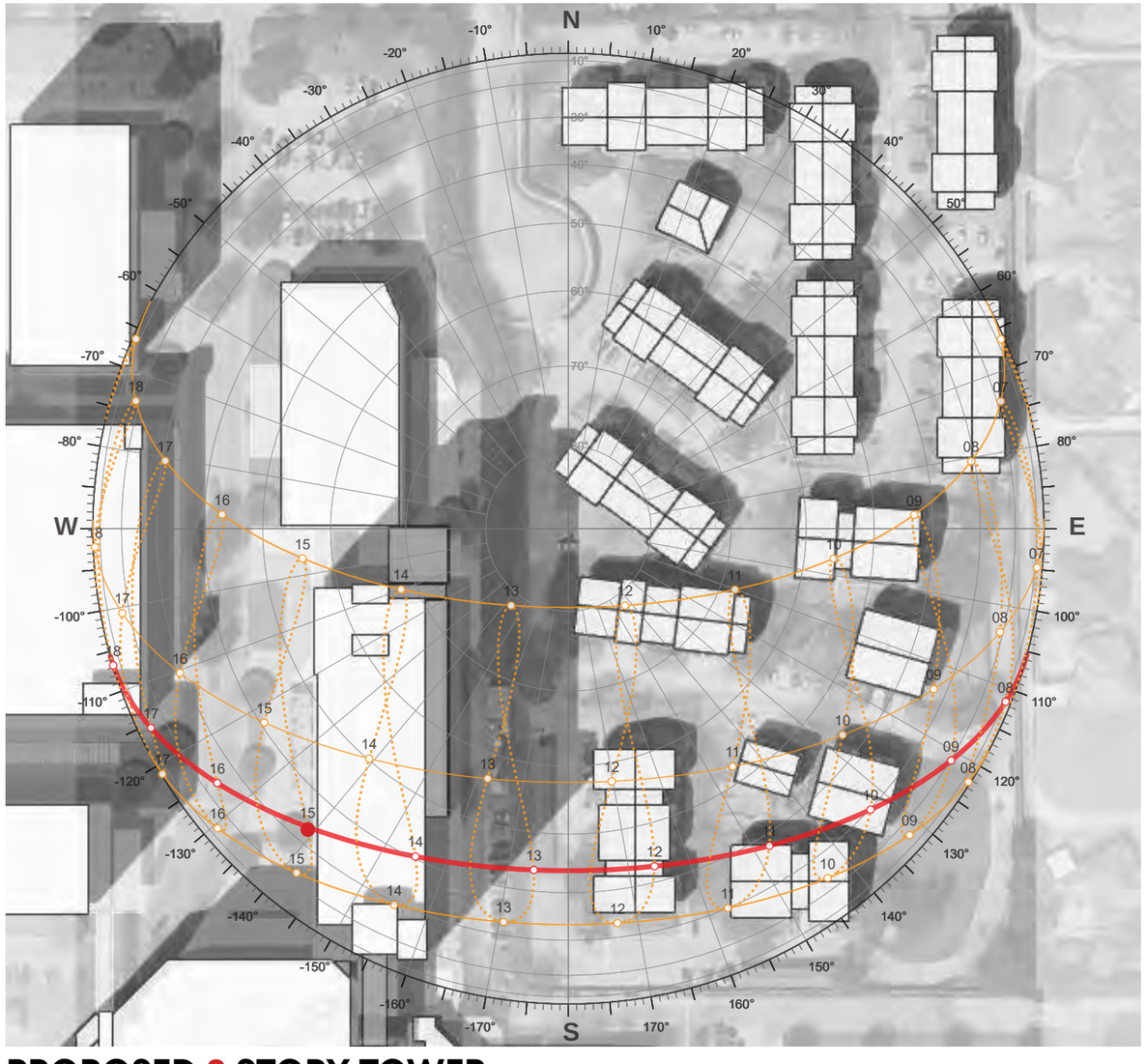

PROPOSED 8 STORY TOWER

HCA Healthcare

Perkins&Will

SHADOW STUDY

FEBRUARY 14TH @ 5PM

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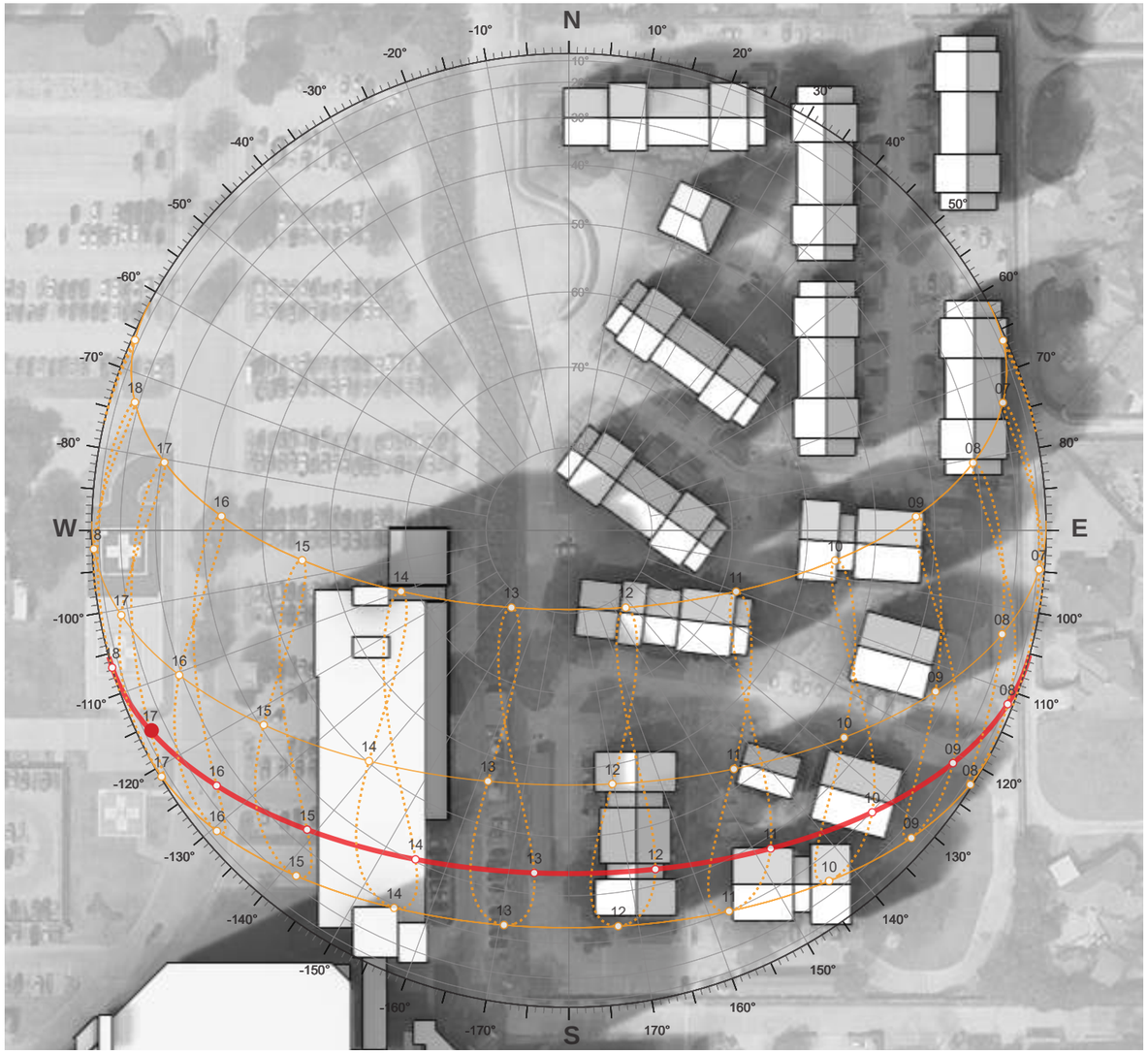

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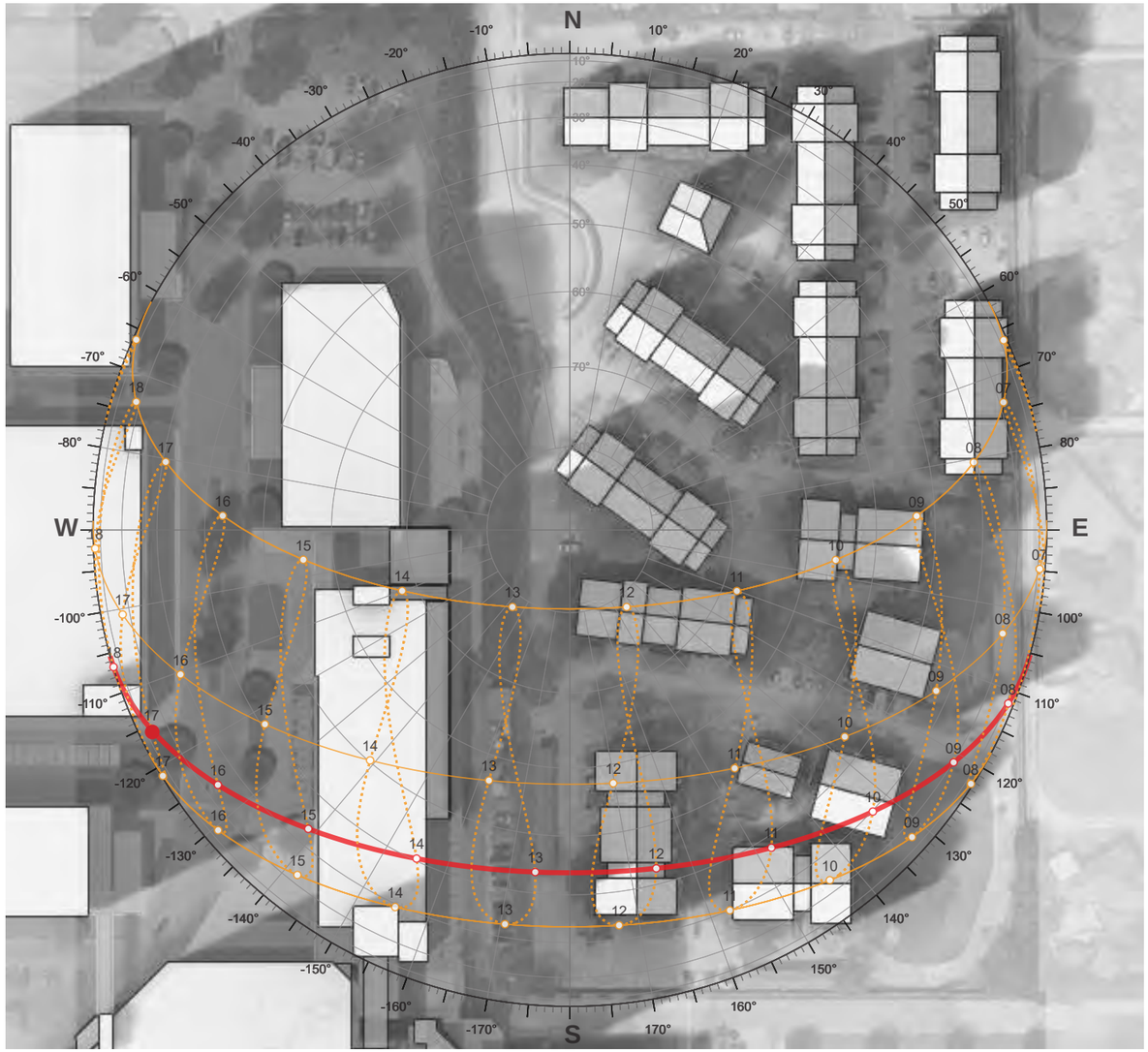

PROPOSED 8 STORY TOWER

HCA Healthcare

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SHADOW STUDY

FEBRUARY 14TH SUMMARY

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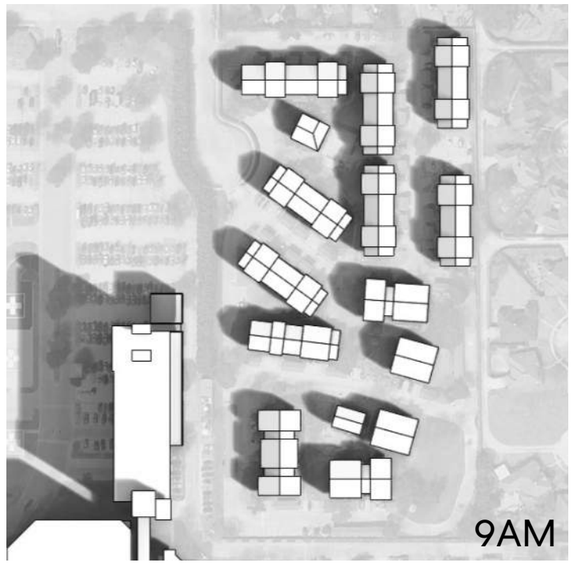
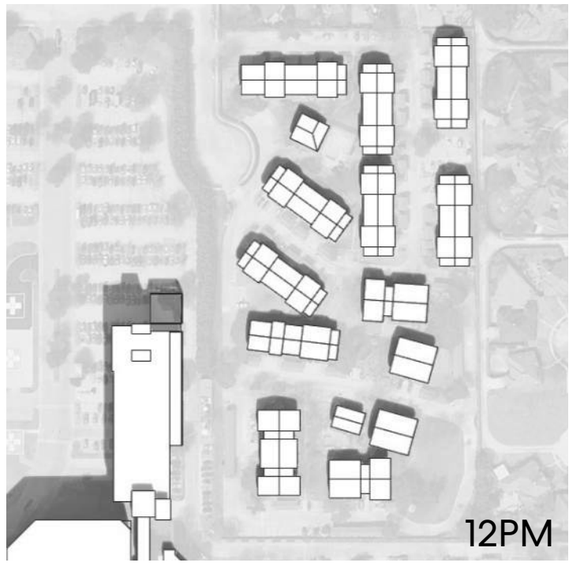
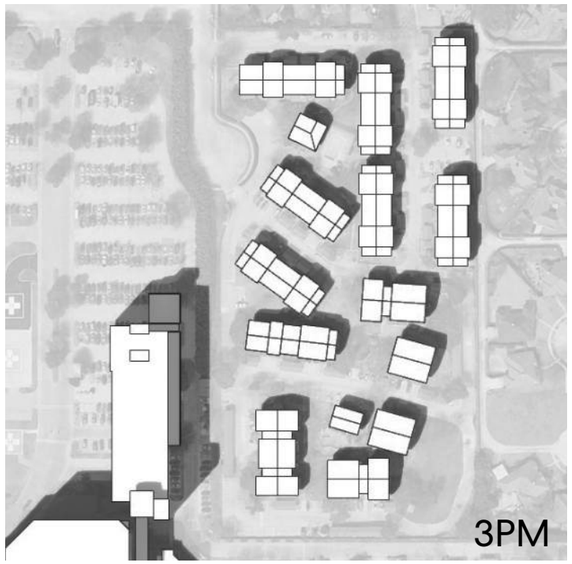
EXISTING 4 STORY TOWER







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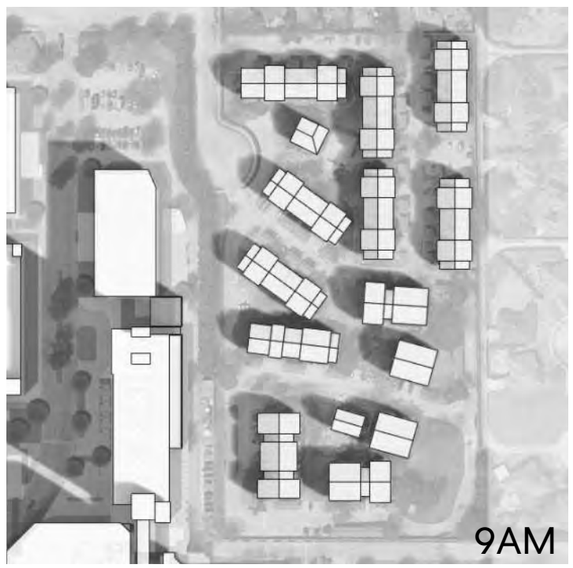

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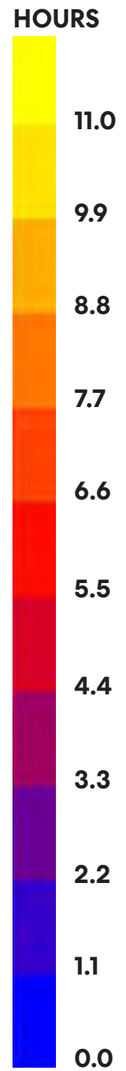
DIRECT SUN HOUR STUDY

FEBRUARY 14TH

SUNRISE - 7:11AM | SUNSET - 6:11PM

EXISTING 4 STORY TOWER

PROPOSED 8 STORY TOWER



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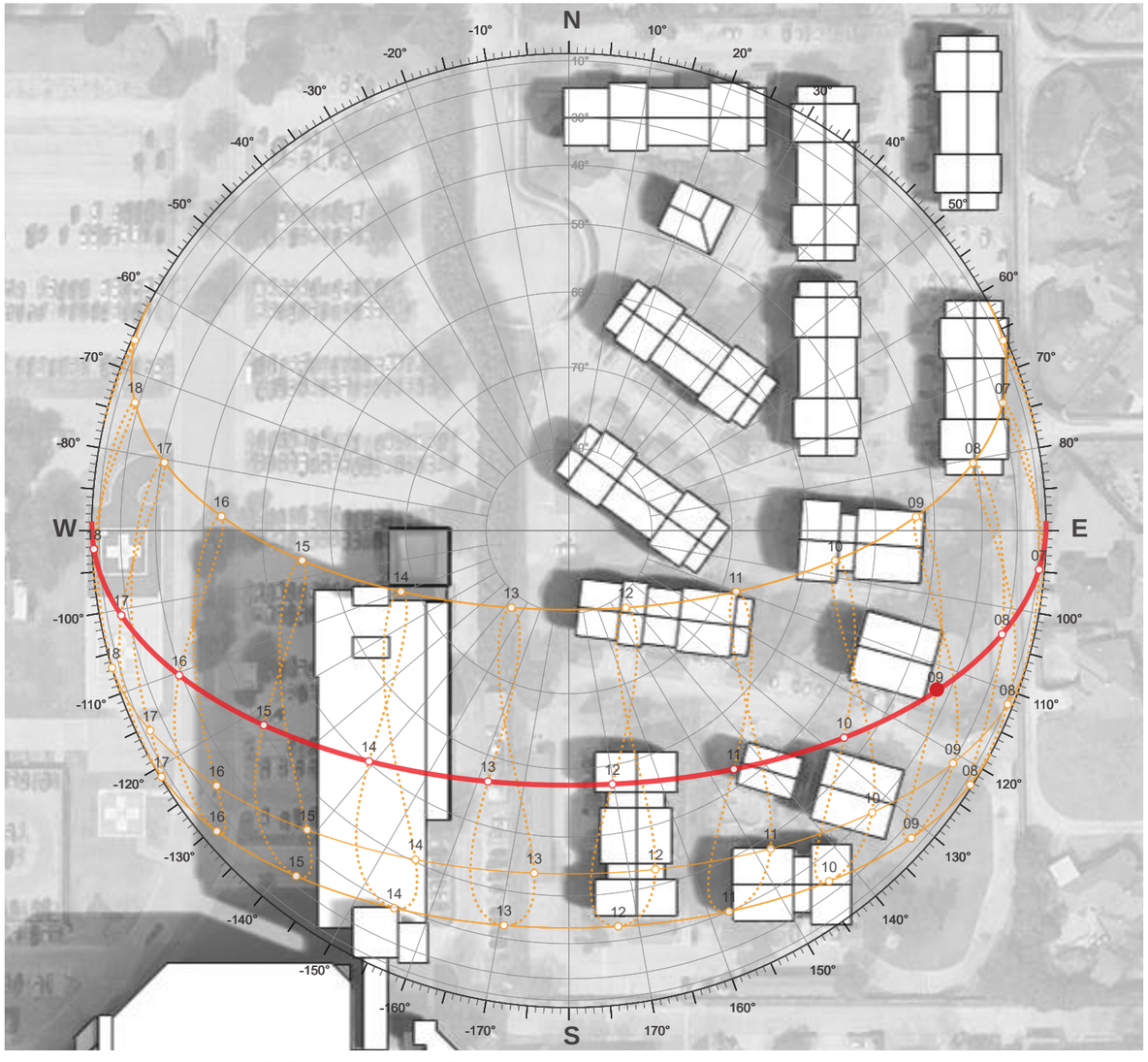
SHADOW STUDY

MARCH 21ST @ 9AM

SUNRISE - 7:29AM | SUNSET - 7:39PM



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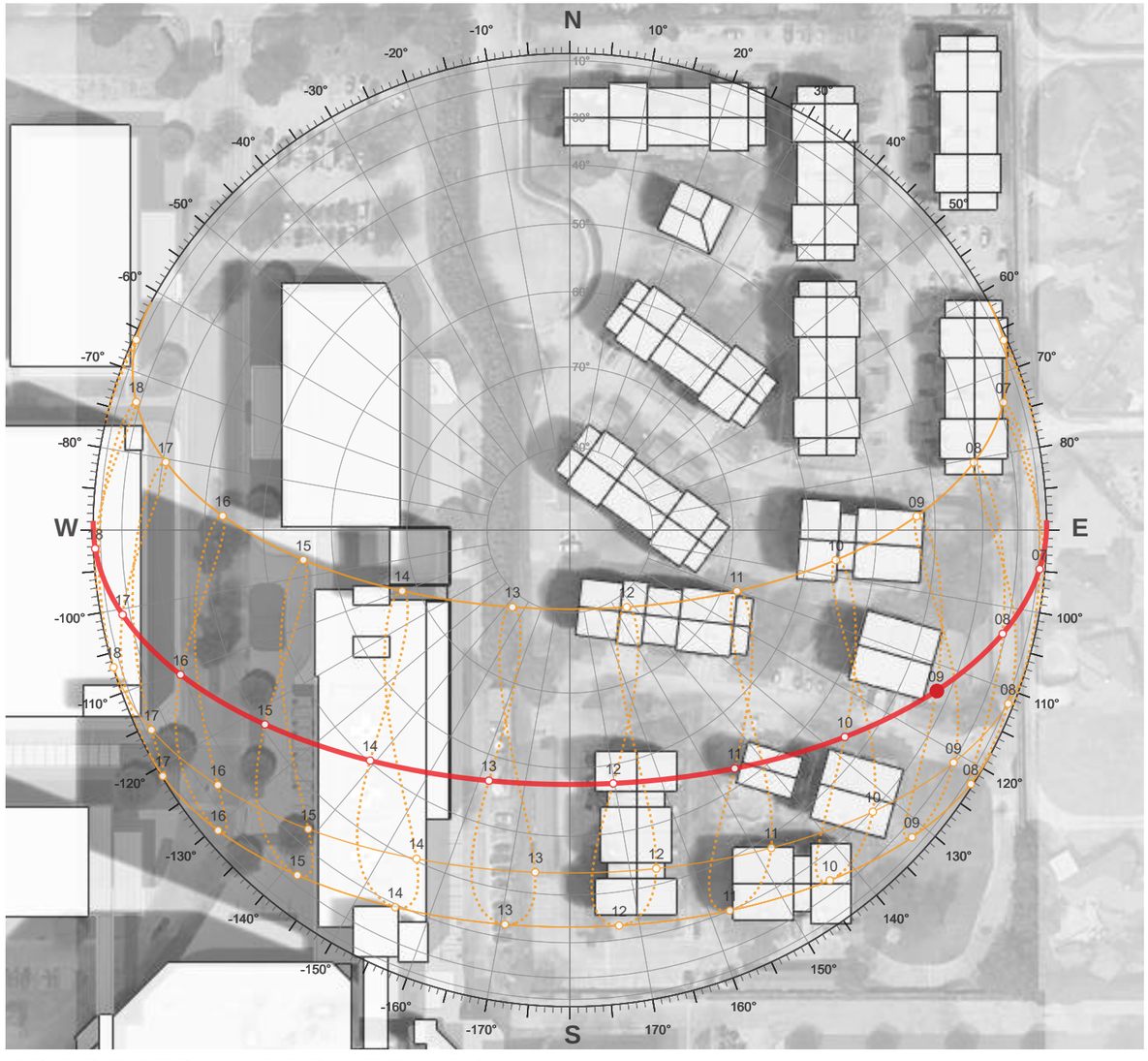

PROPOSED 8 STORY TOWER

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SHADOW STUDY

MARCH 21ST @ 12PM

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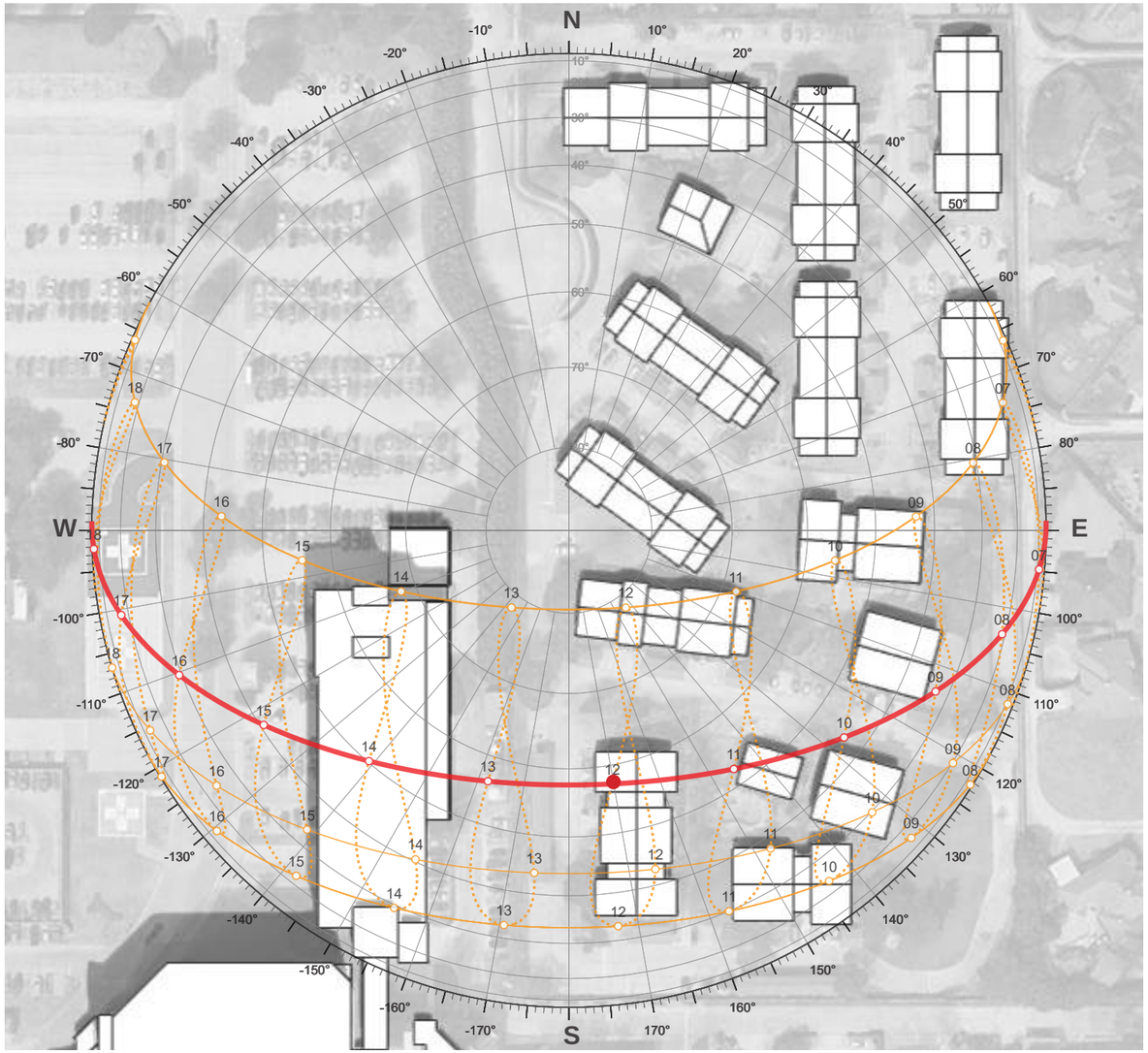

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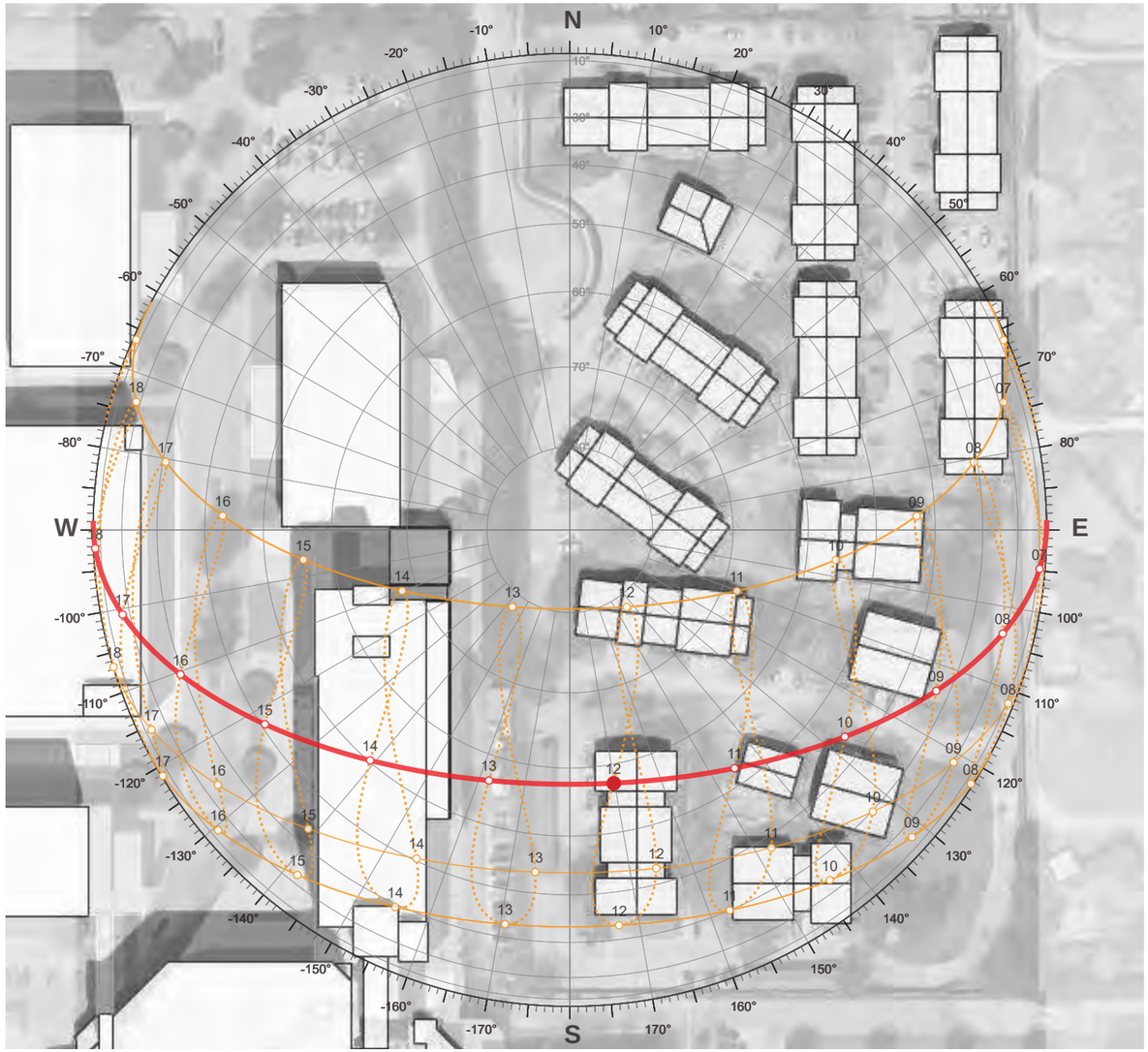

PROPOSED 8 STORY TOWER

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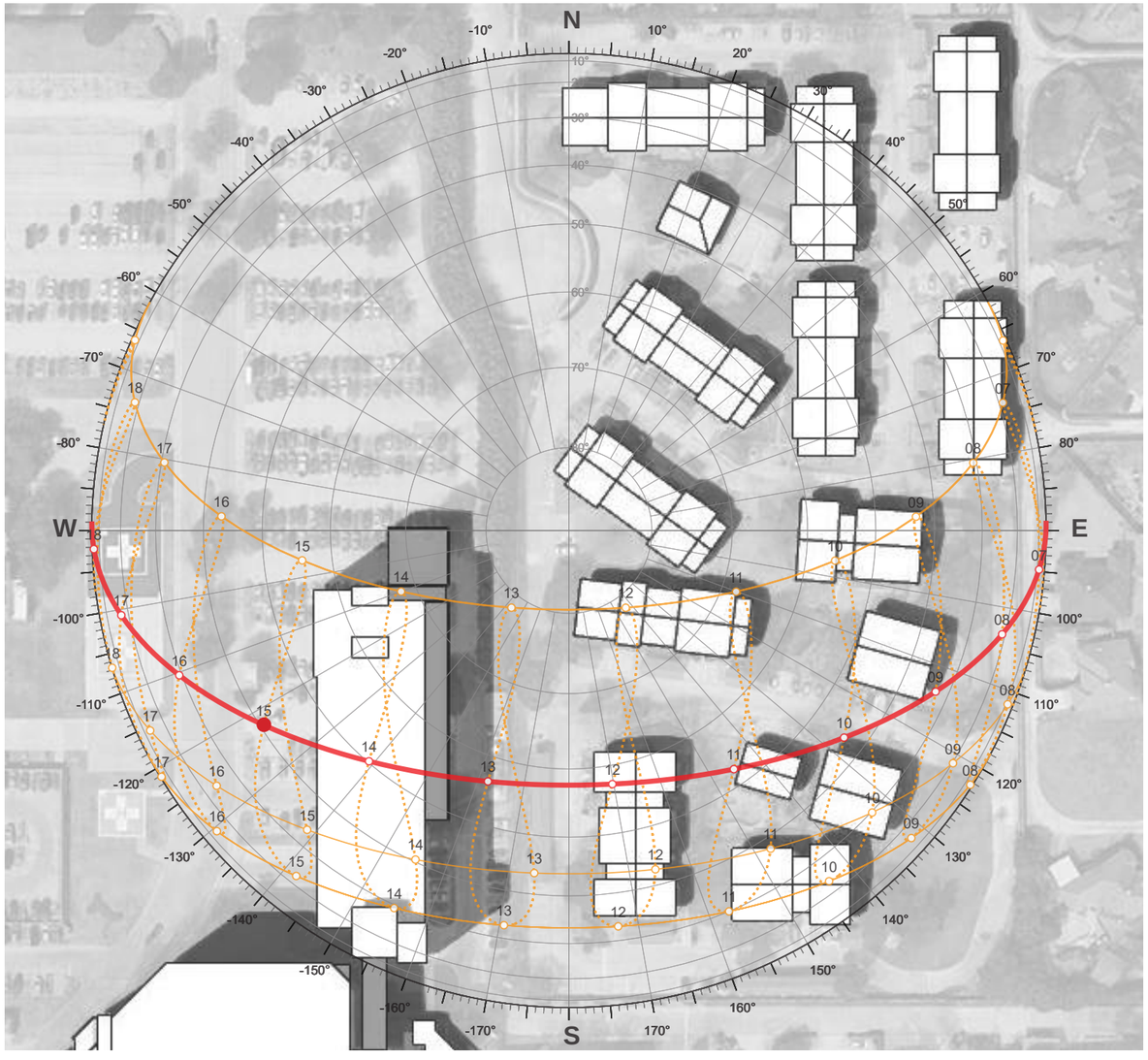
SHADOW STUDY

MARCH 21ST @ 3PM

SUNRISE - 7:29AM | SUNSET - 7:39PM



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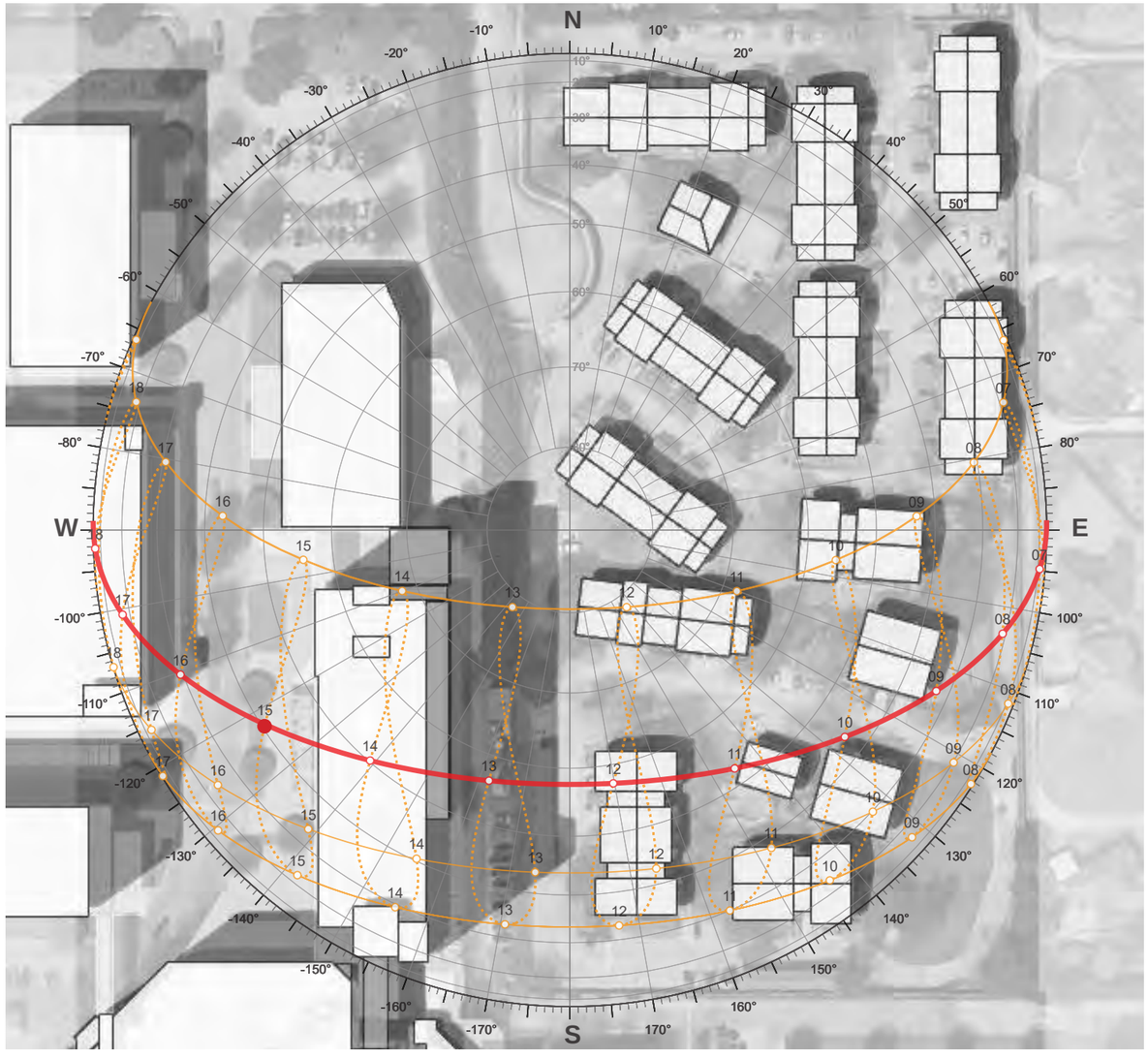

PROPOSED 8 STORY TOWER

HCA Healthcare

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SHADOW STUDY

MARCH 21ST @ 5PM

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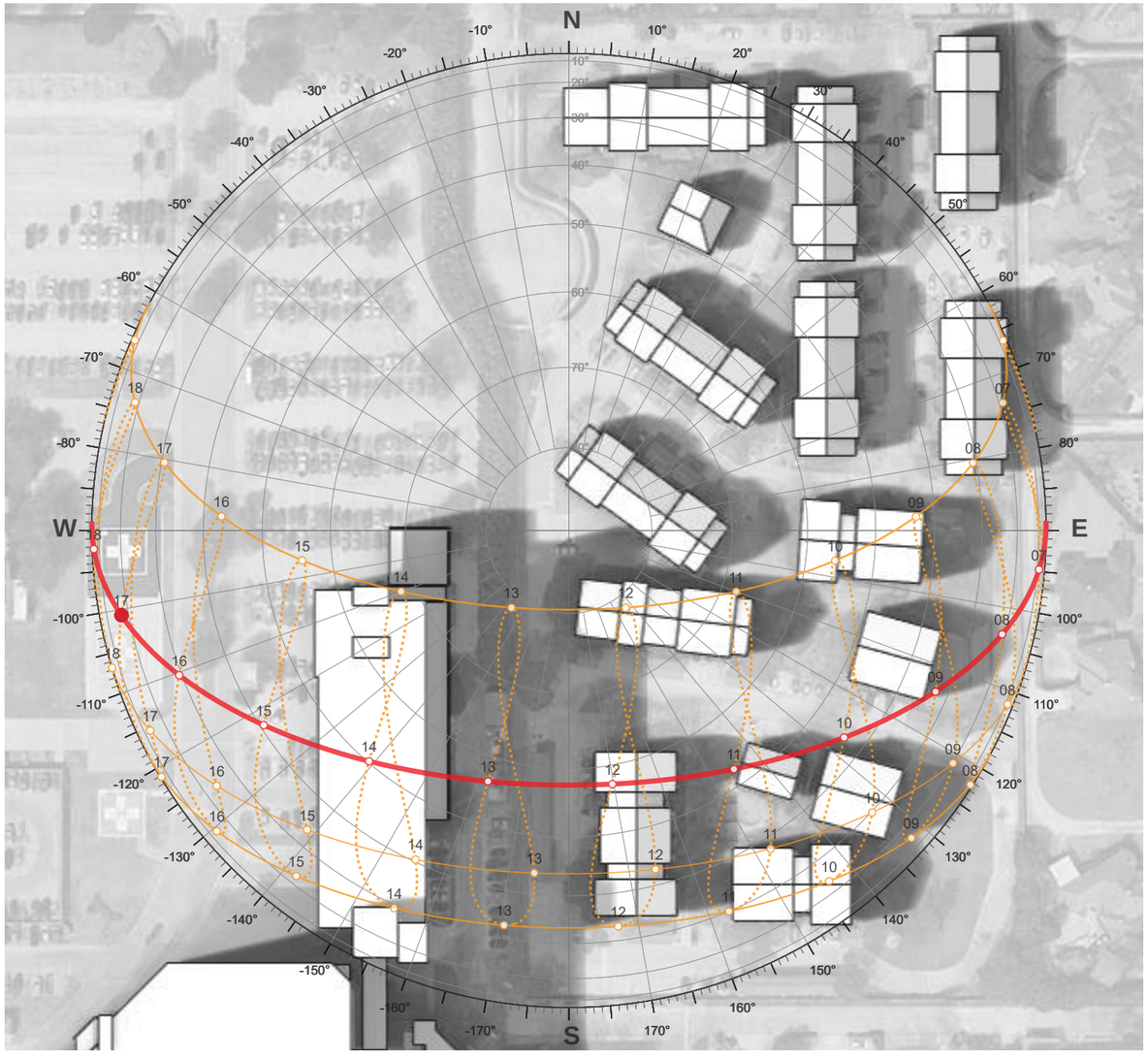

EXISTING 4 STORY TOWER

PROPOSED 8 STORY TOWER

HCA Healthcare

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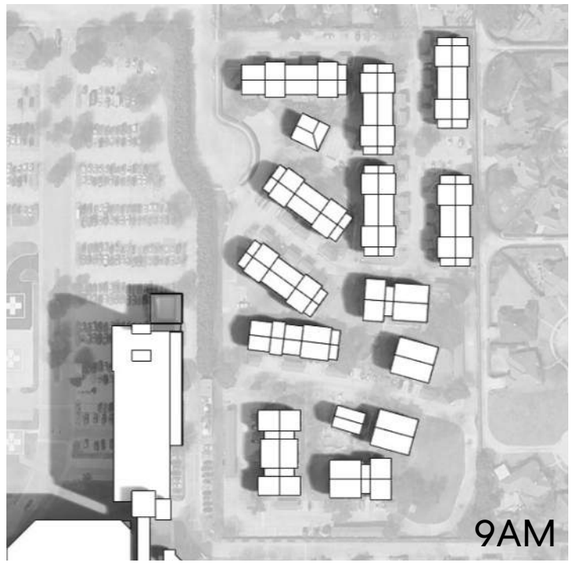
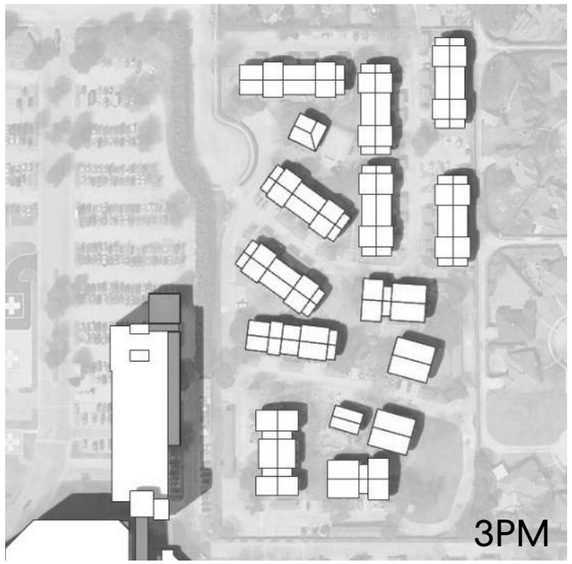
SHADOW STUDY

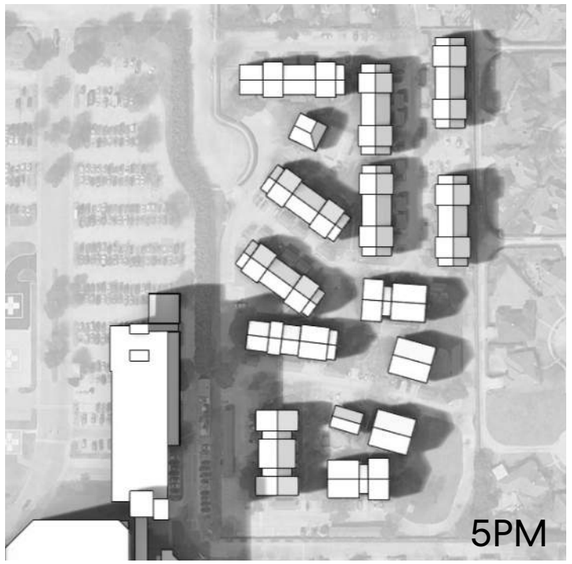
MARCH 21ST SUMMARY

SUNRISE - 7:29AM | SUNSET - 7:39PM

EXISTING 4 STORY TOWER







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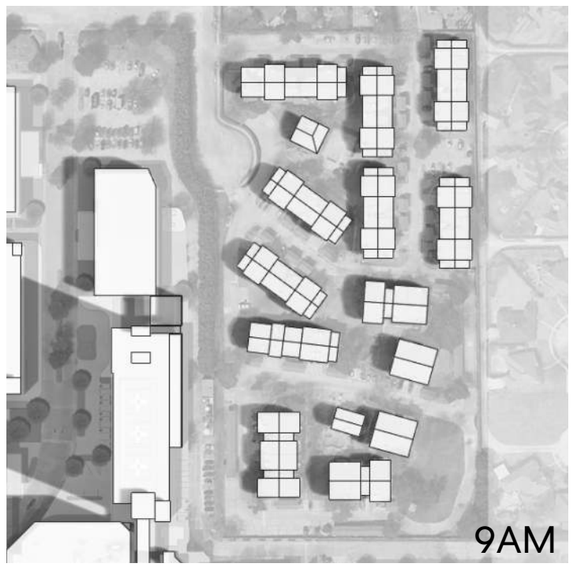

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DIRECT SUN HOUR STUDY

MARCH 21ST

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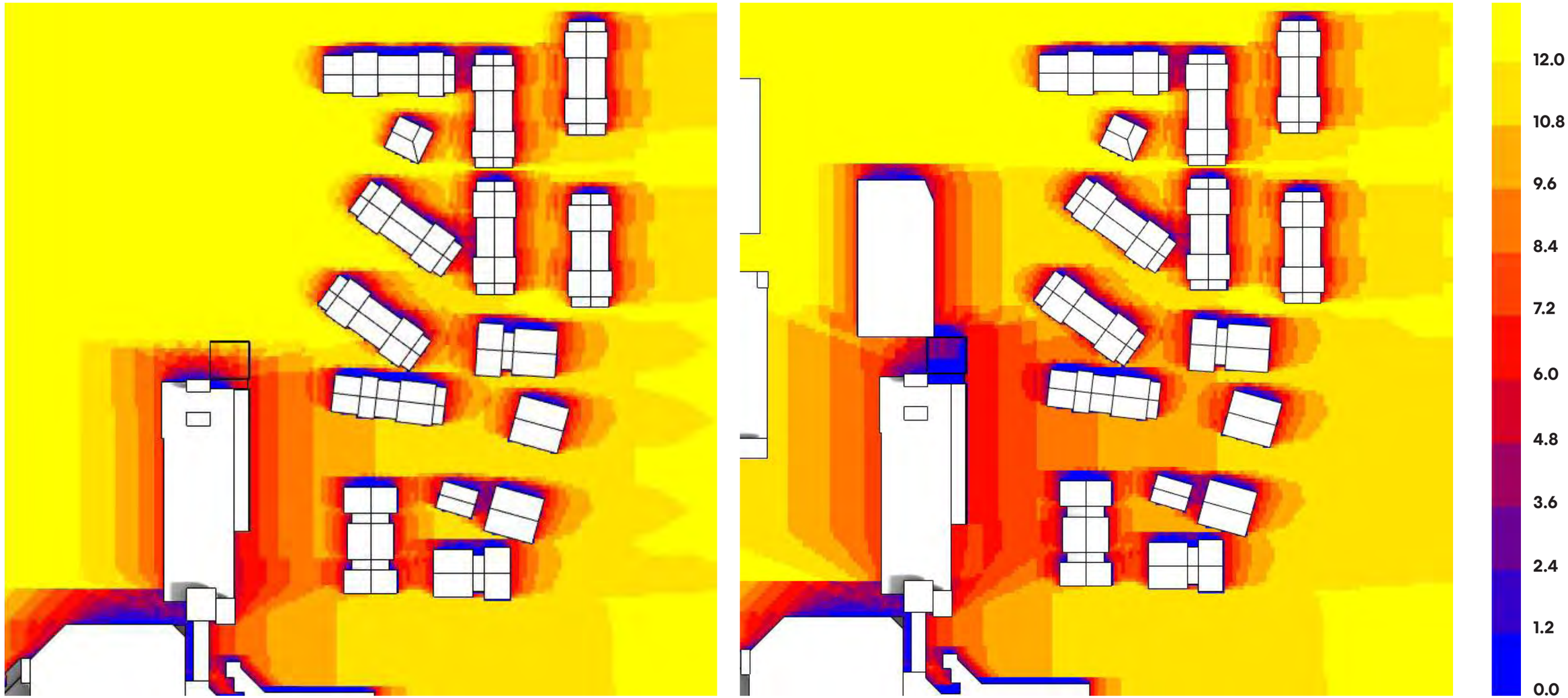


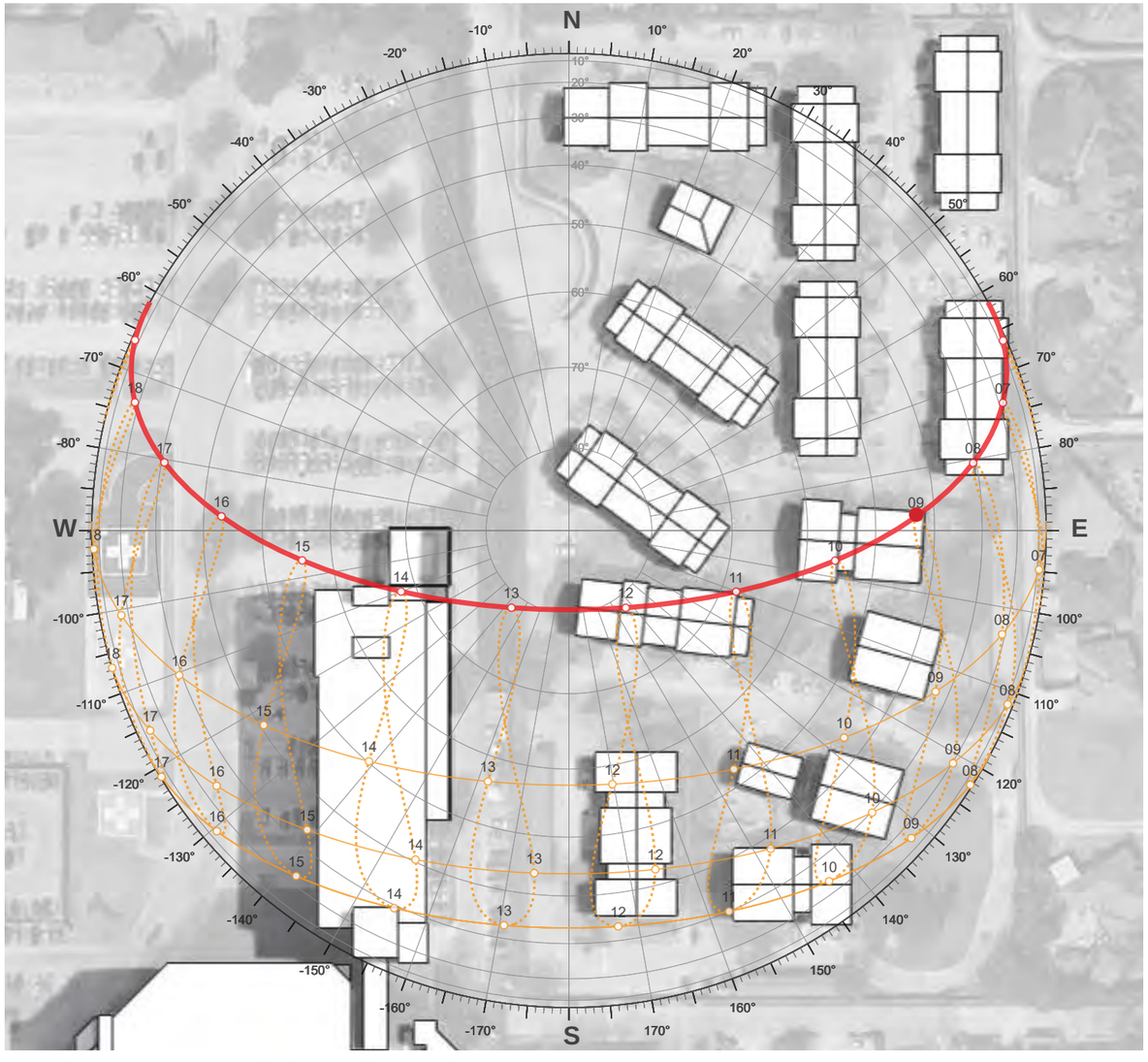
EXISTING 4 STORY TOWER

PROPOSED 8 STORY TOWER

SHADOW STUDY

JUNE 21ST @ 9AM

SUNRISE - 6:18AM | SUNSET - 8:38PM



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HCA Healthcare

Perkins&Will

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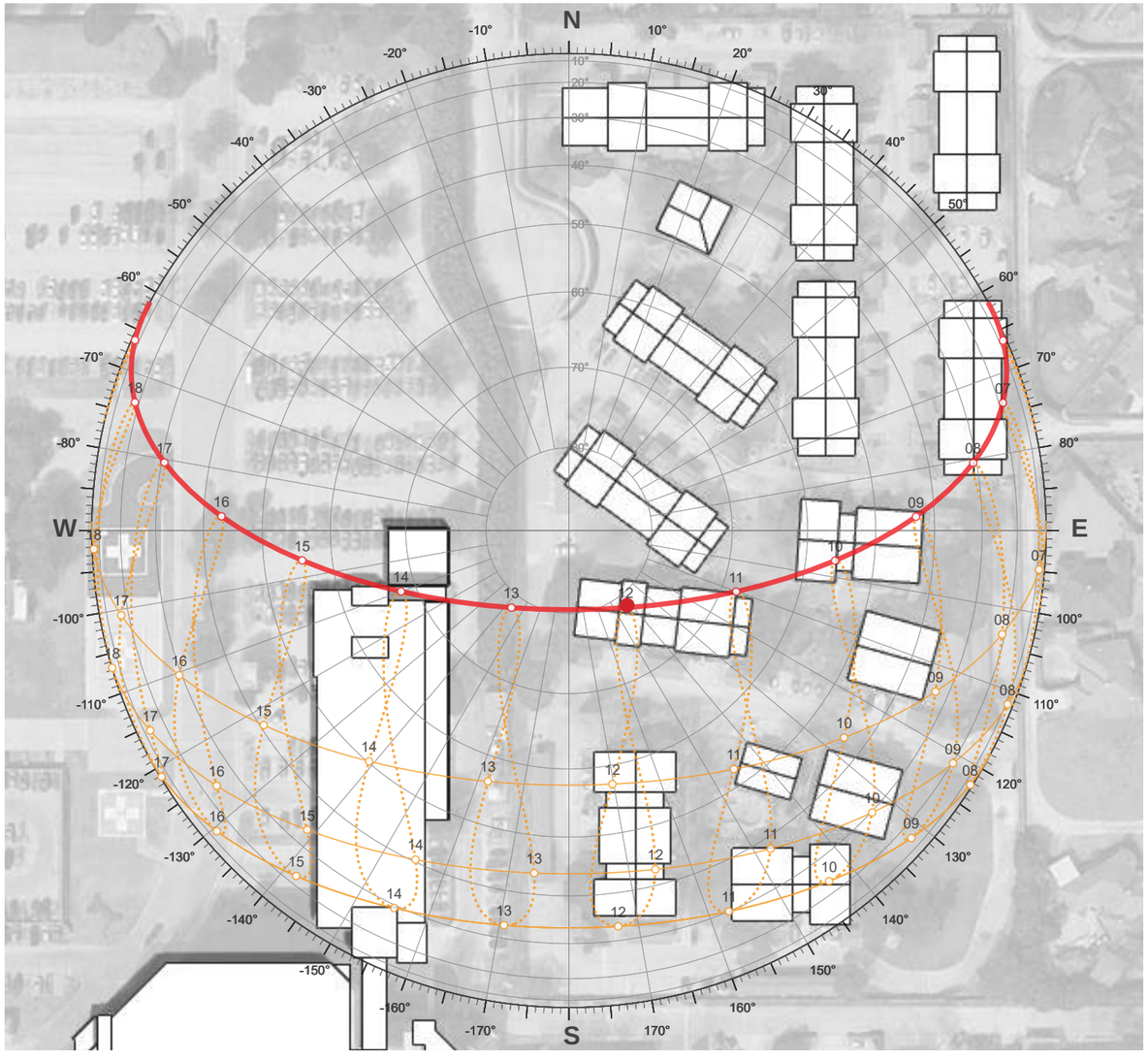

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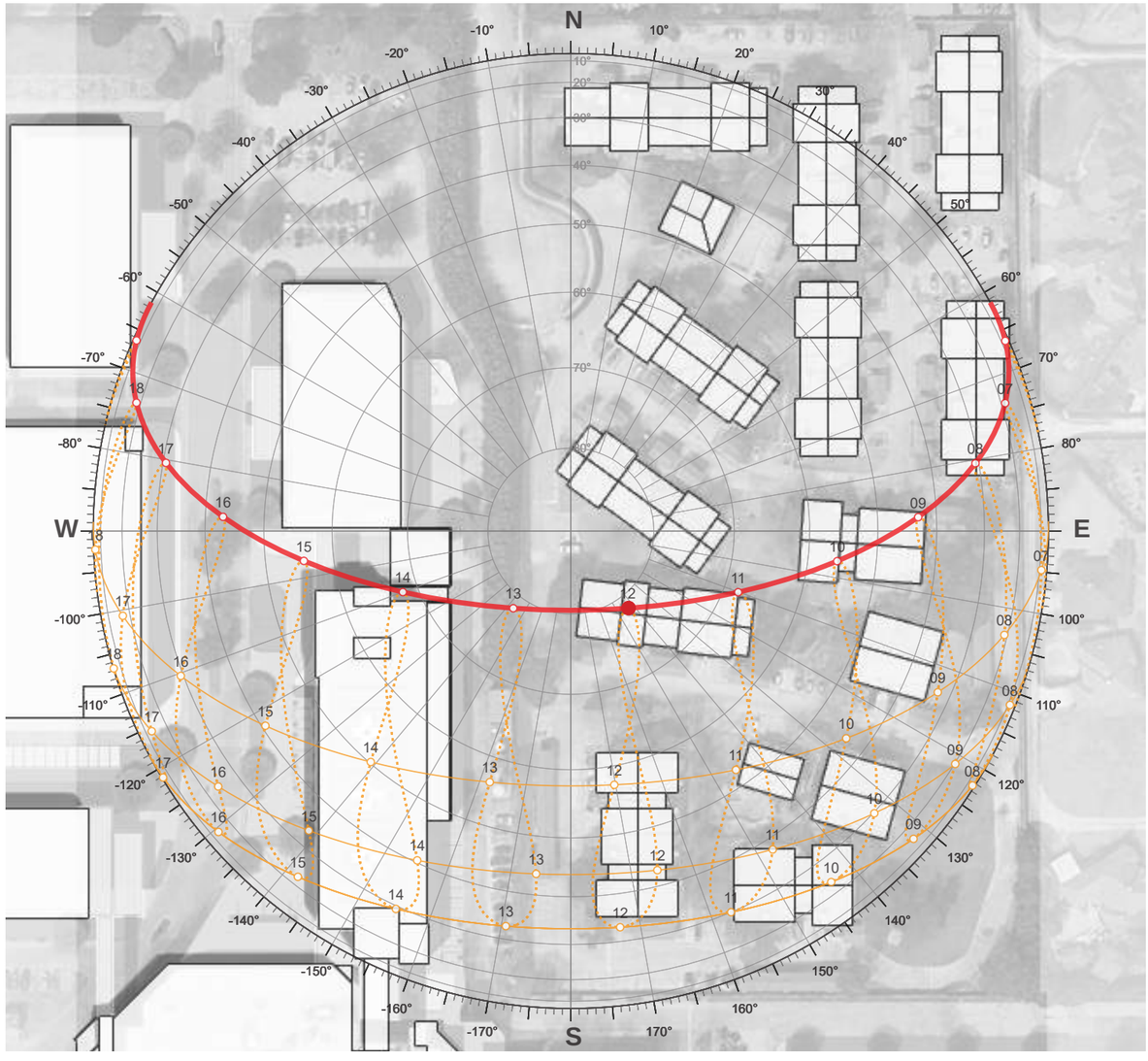

PROPOSED 8 STORY TOWER

HCA Healthcare

Perkins&Will

SHADOW STUDY

JUNE 21ST @ 3PM

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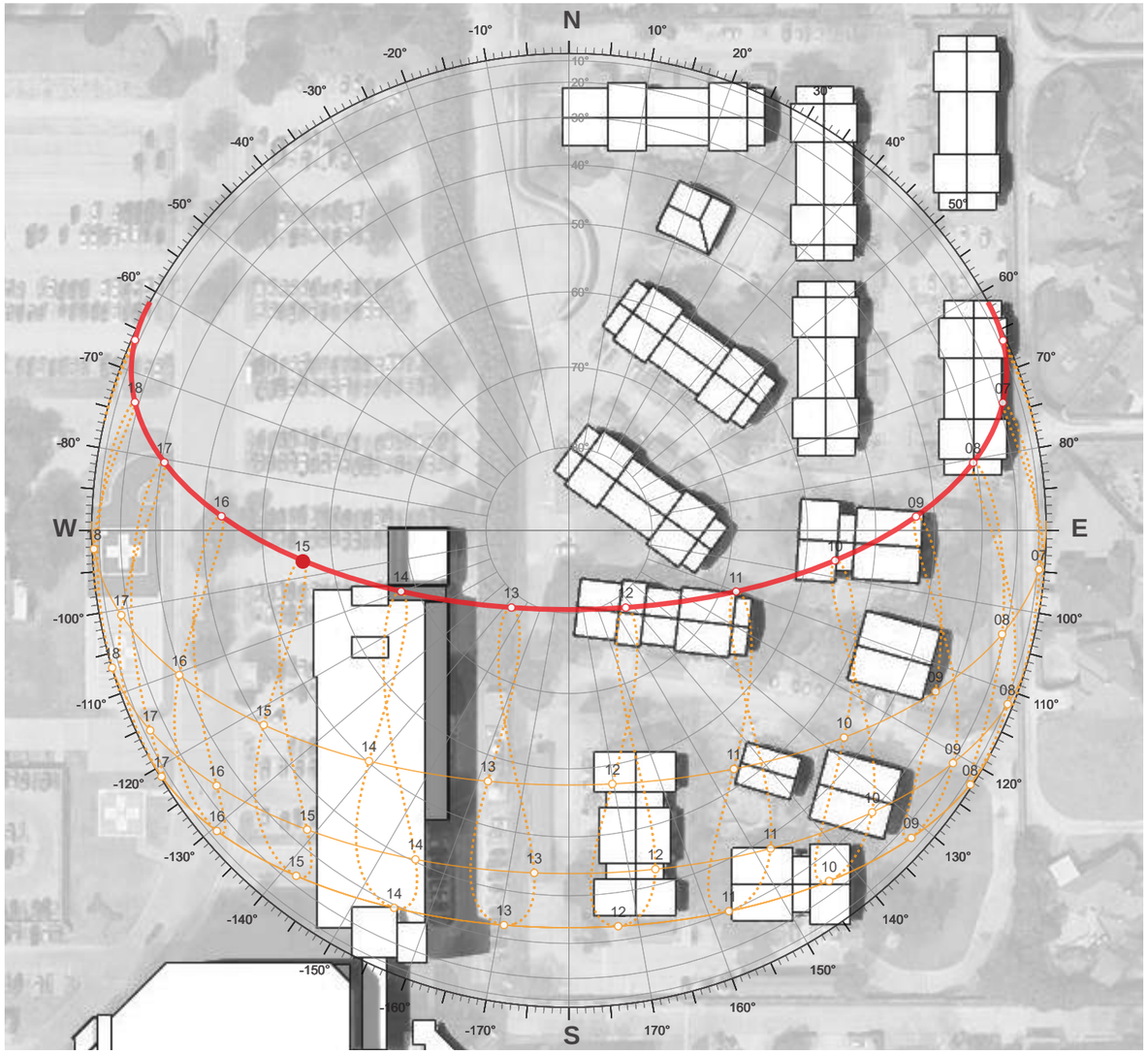

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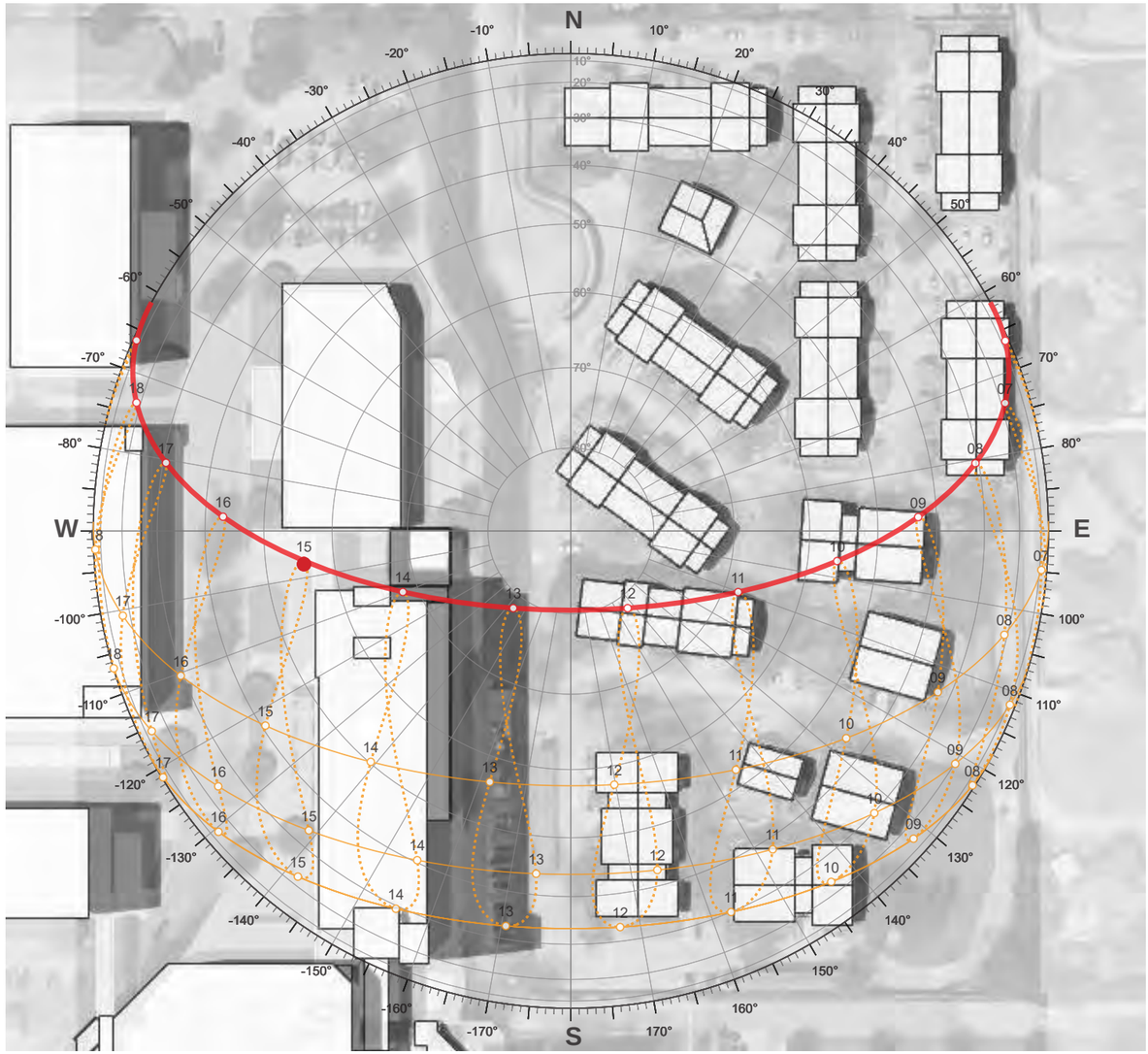

PROPOSED 8 STORY TOWER

HCA Healthcare

Perkins&Will

SHADOW STUDY

JUNE 21ST @ 5PM

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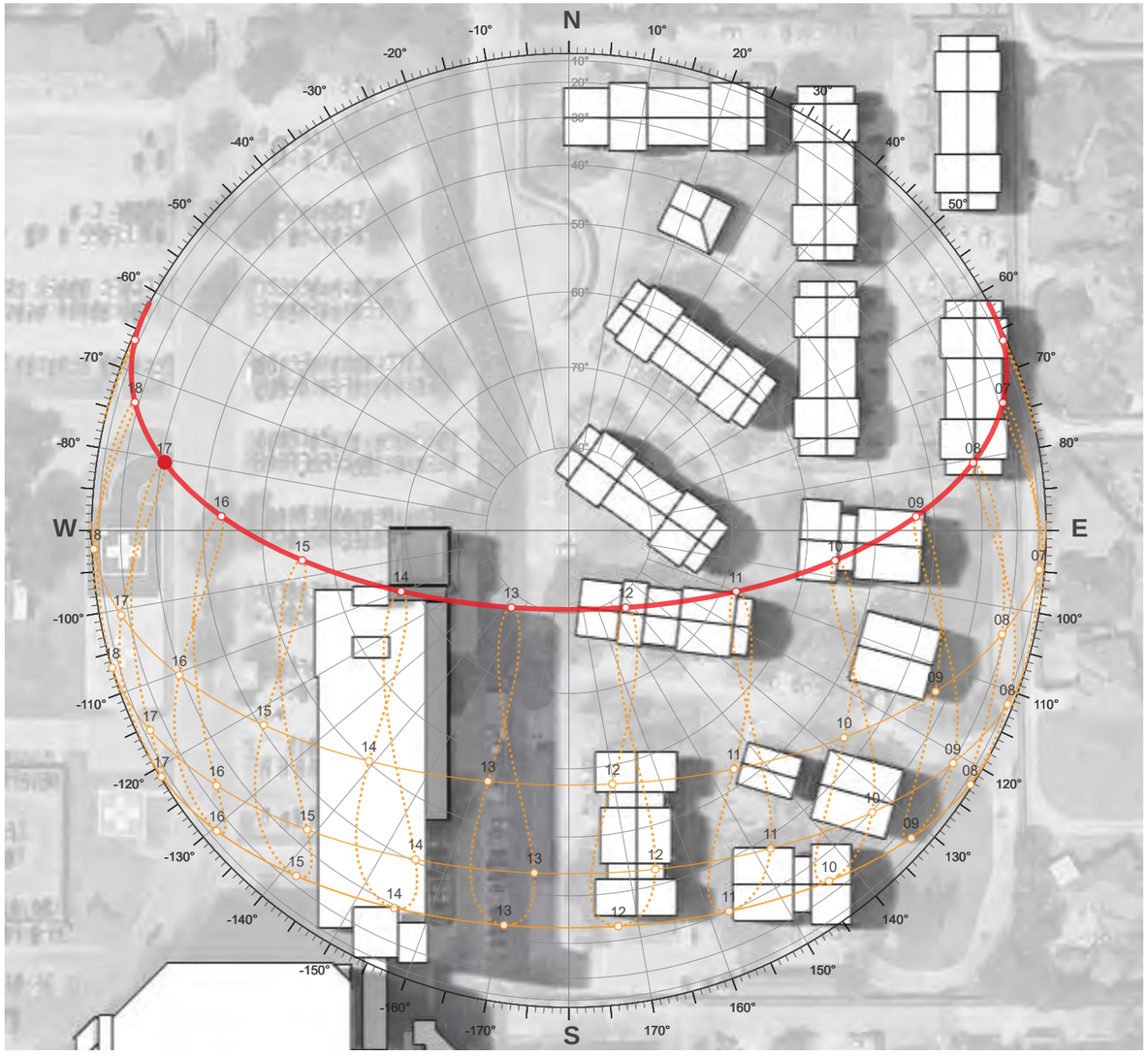

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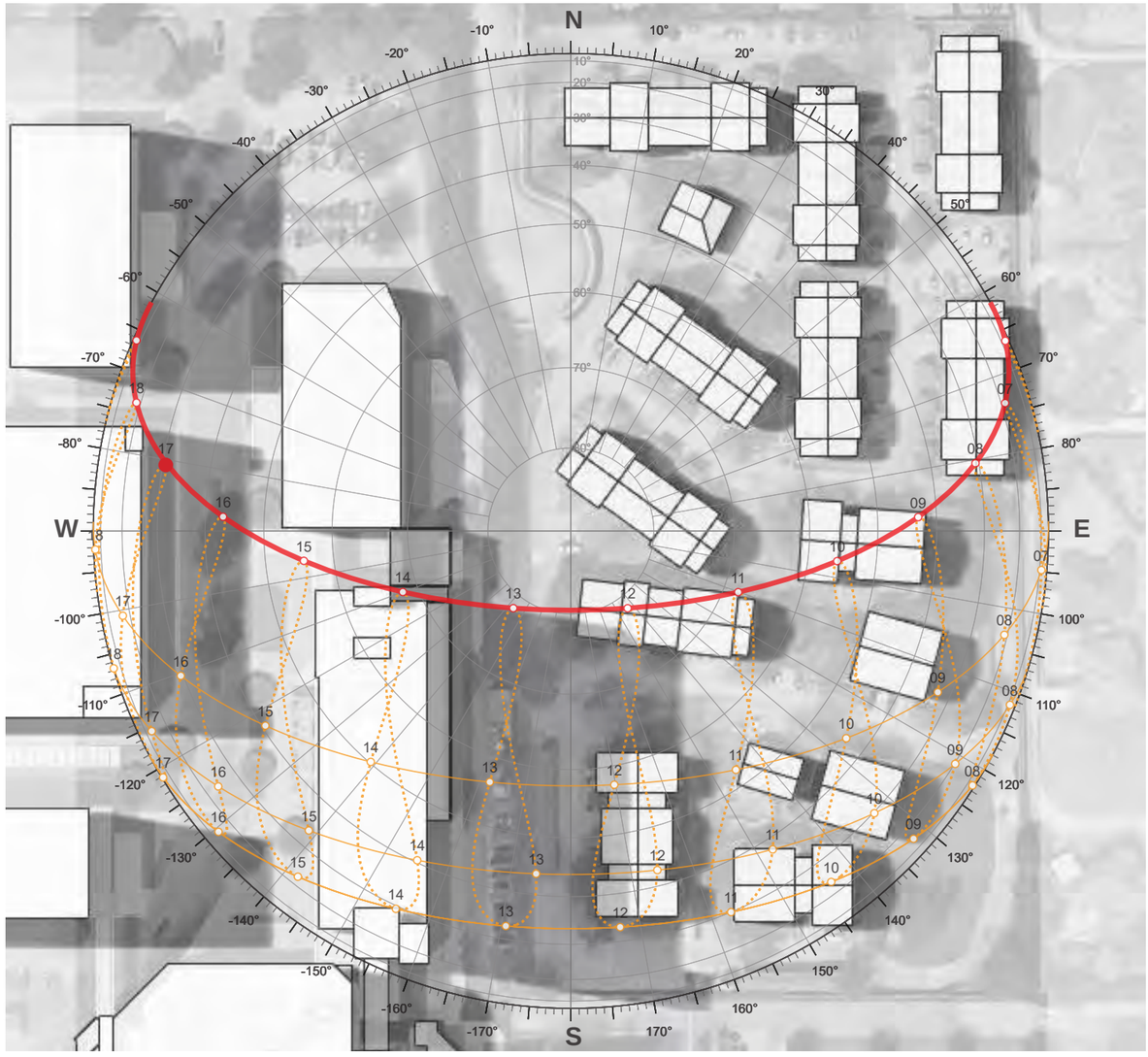

PROPOSED 8 STORY TOWER

HCA Healthcare

Perkins&Will

SHADOW STUDY

JUNE 21ST SUMMARY

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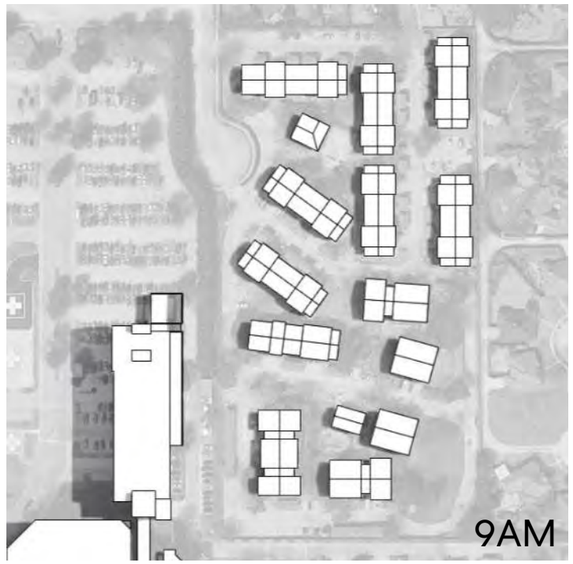
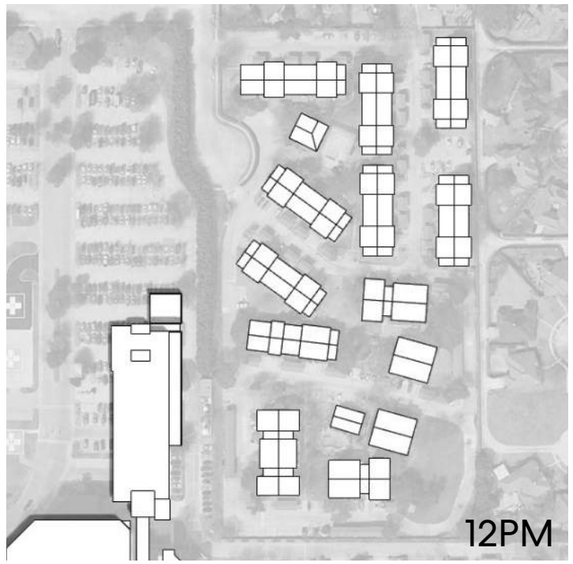
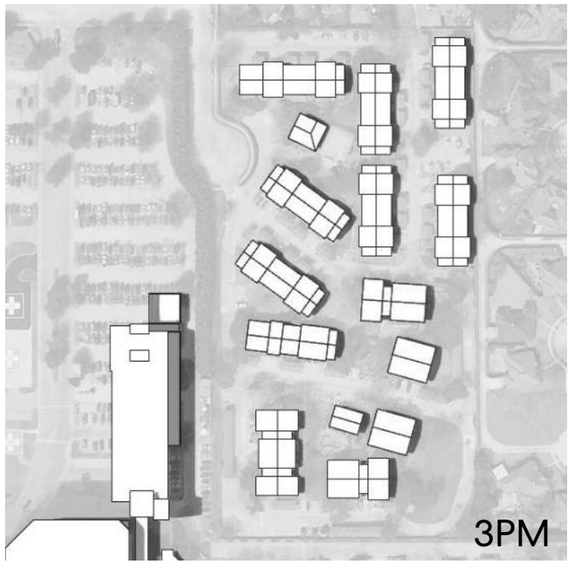
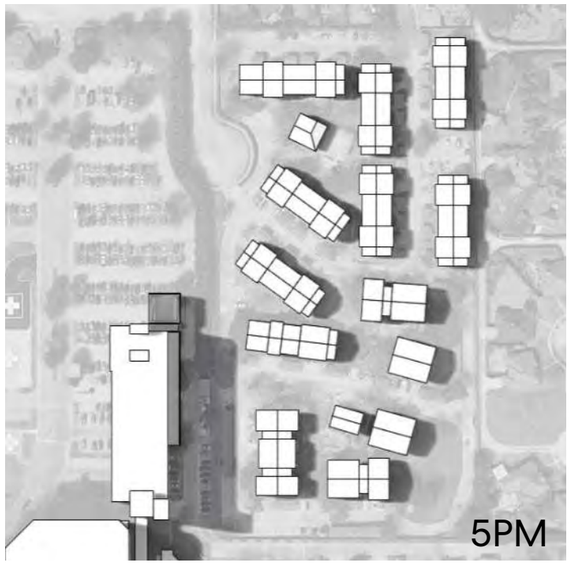
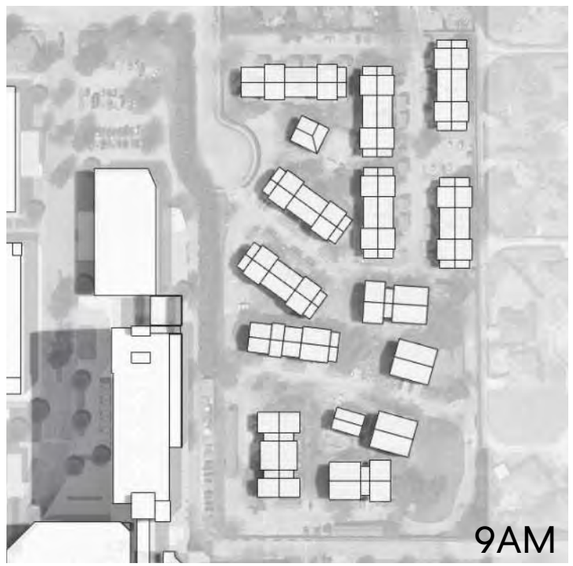








PROPOSED 8 STORY TOWER



HCA Healthcare

Perkins&Will

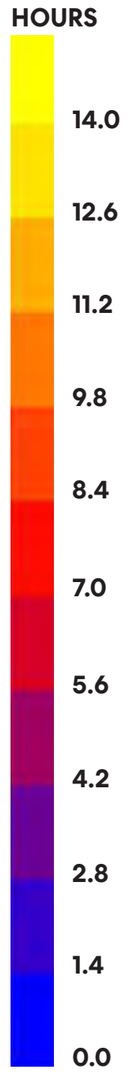
DIRECT SUN HOUR STUDY

JUNE 21ST

SUNRISE - 6:18AM | SUNSET - 8:38PM

EXISTING 4 STORY TOWER

PROPOSED 8 STORY TOWER



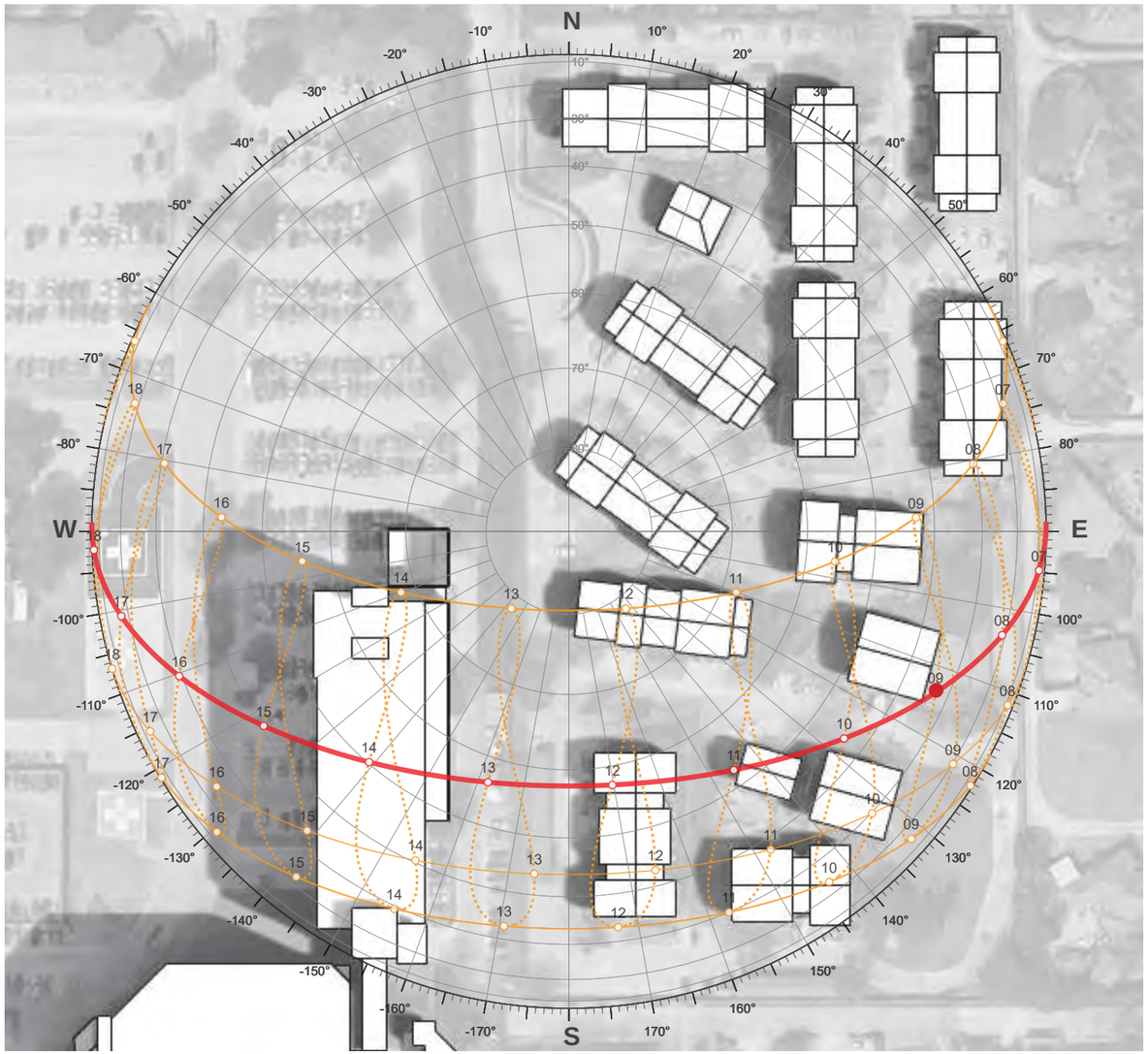
HCA Healthcare

Perkins&Will

SHADOW STUDY

SEPTEMBER 21ST @ 9AM

SUNRISE - 7:14AM | SUNSET - 7:24PM



EXISTING 4 STORY TOWER

PROPOSED 8 STORY TOWER

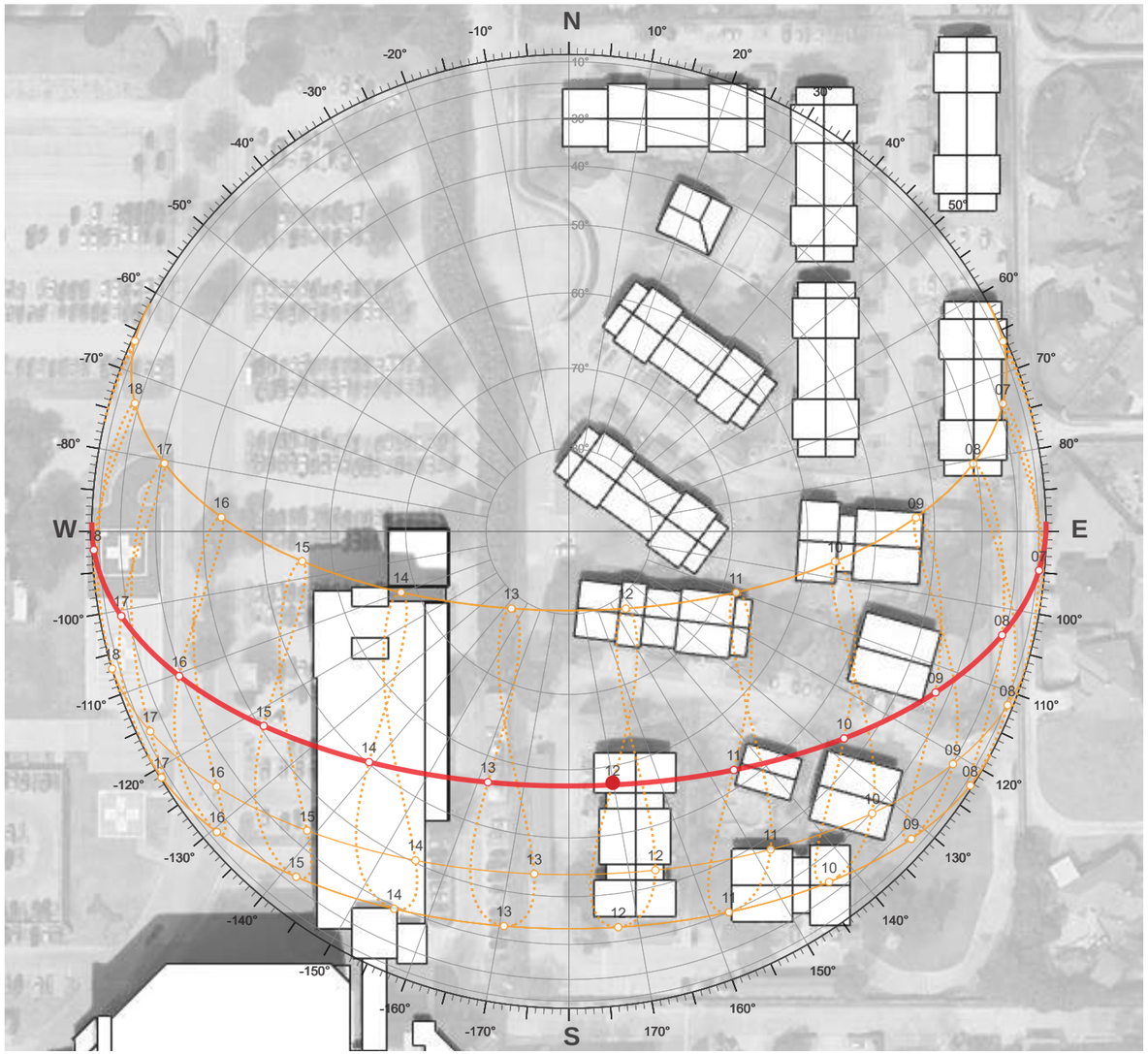
HCA Healthcare

Perkins&Will

SHADOW STUDY

SEPTEMBER 21ST @ 12PM

SUNRISE - 7:14AM | SUNSET - 7:24PM



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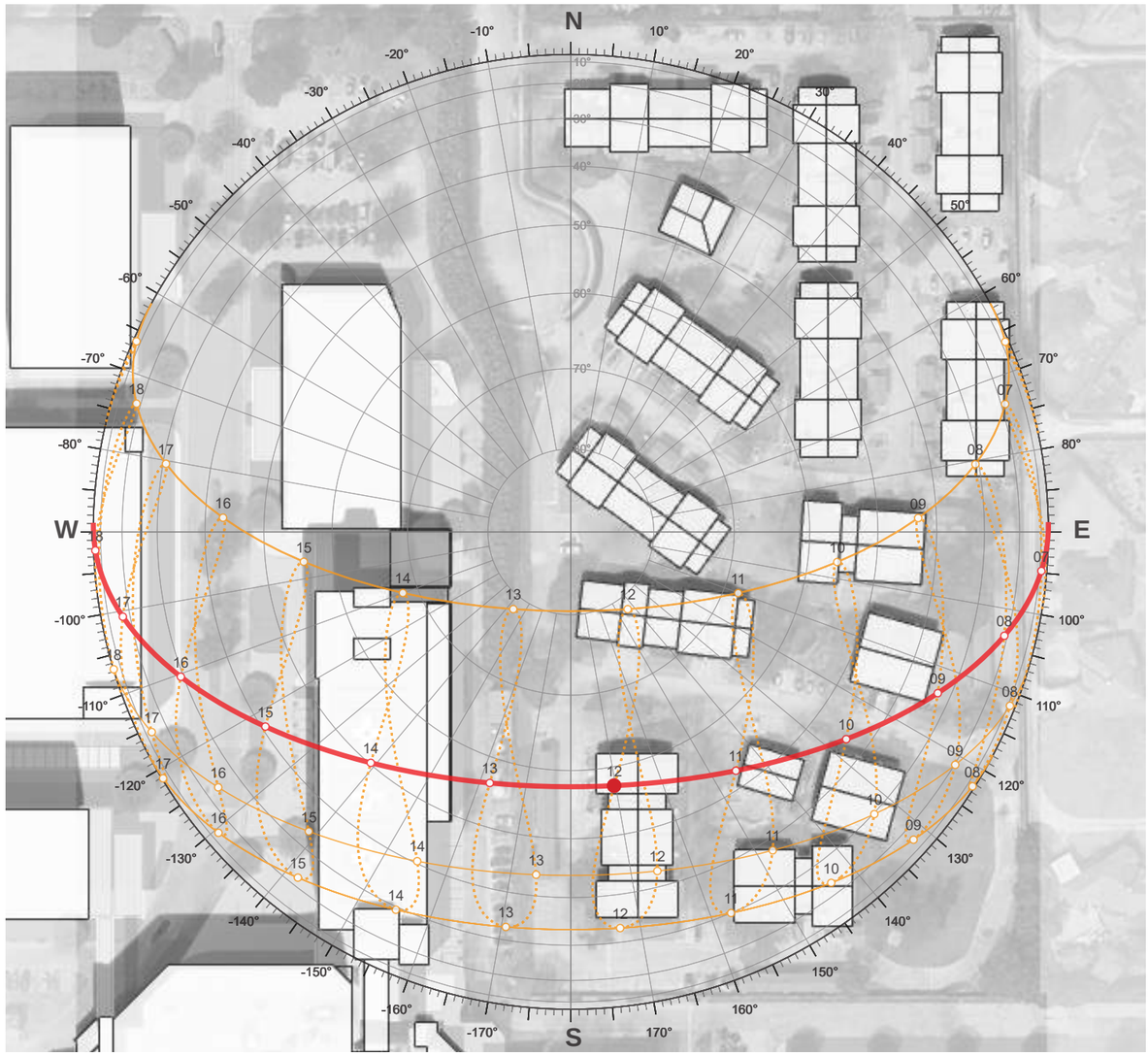


PROPOSED 8 STORY TOWER

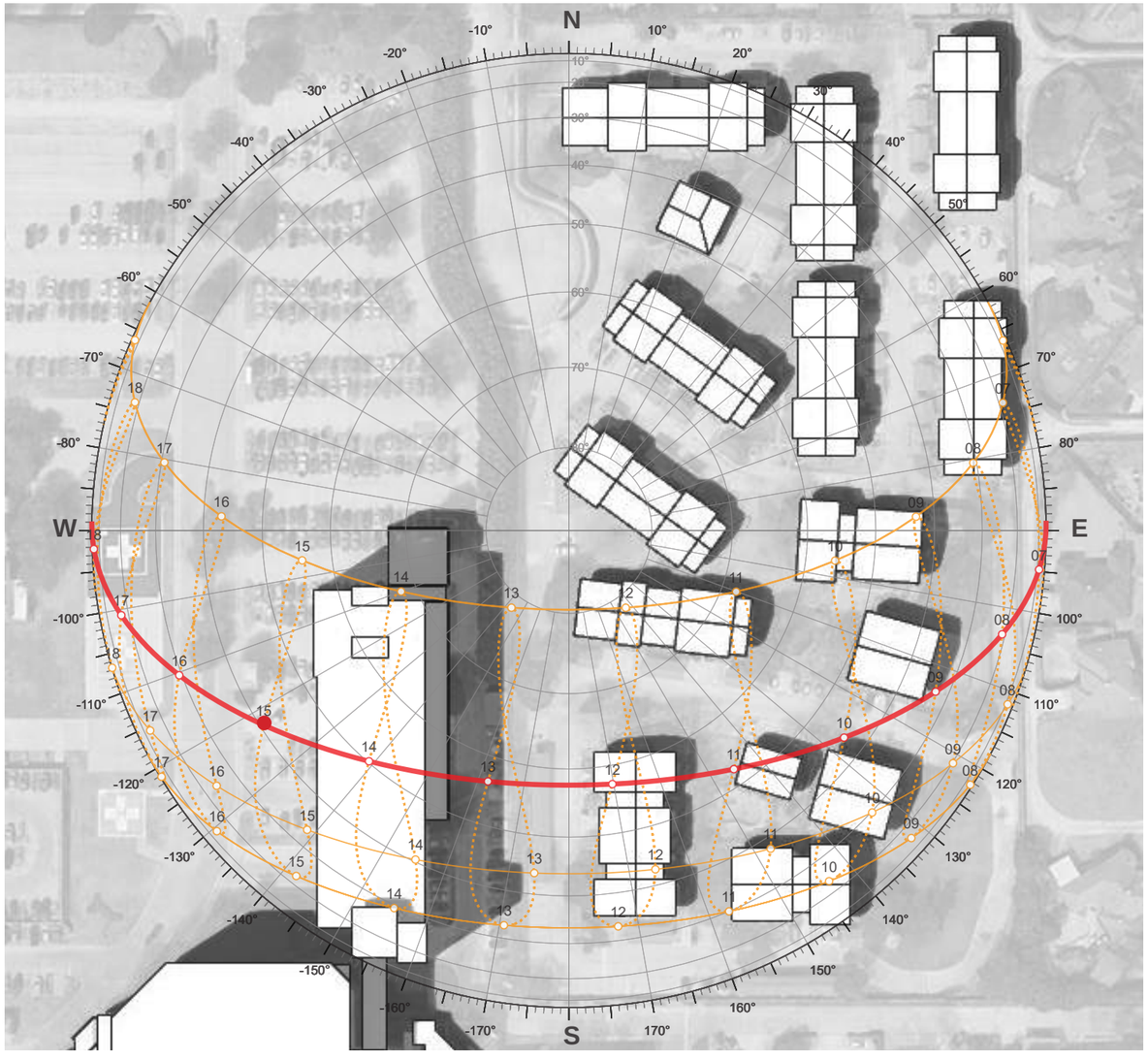
HCA Healthcare

Perkins&Will

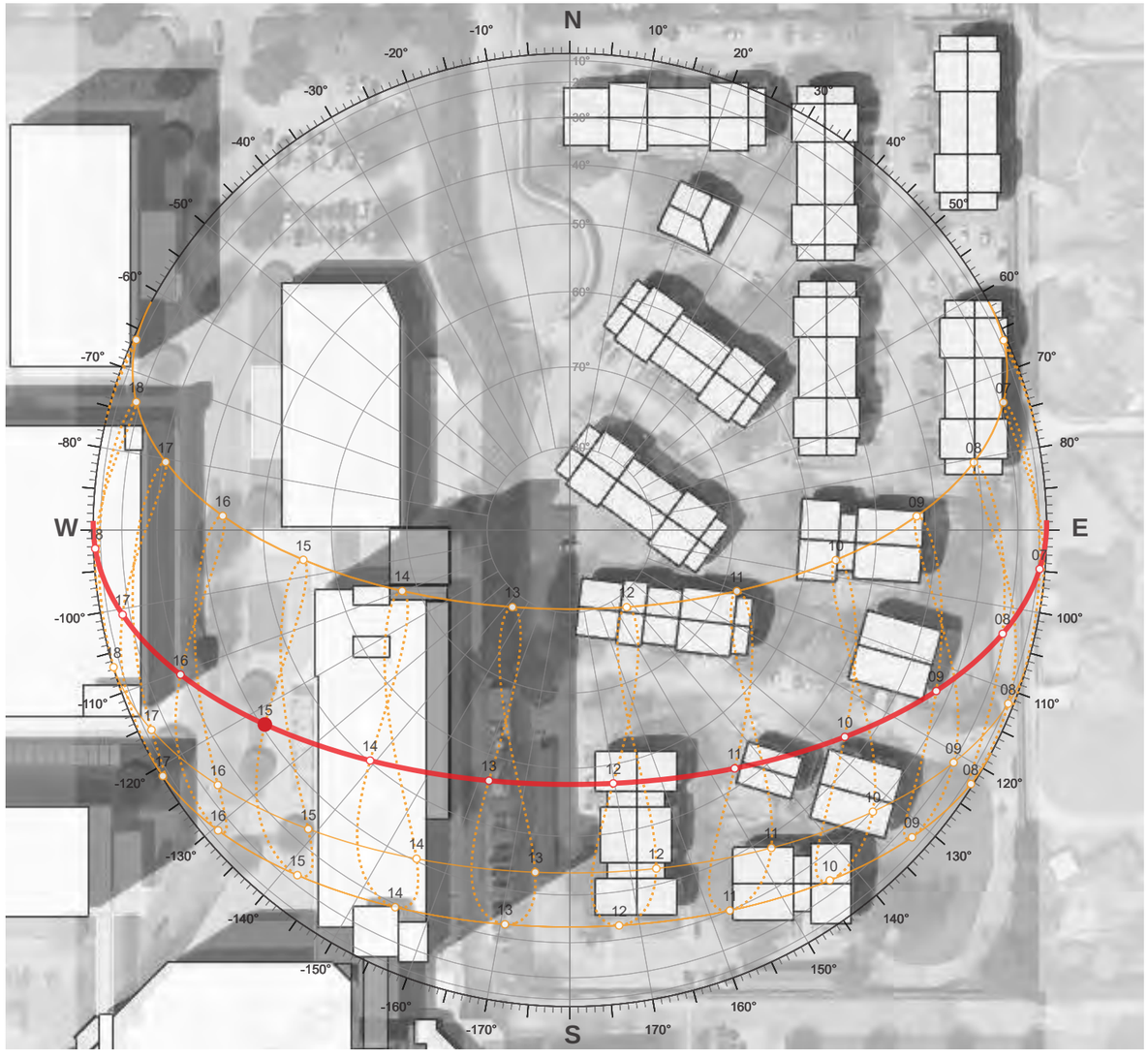
SHADOW STUDY

SEPTEMBER 21ST @ 3PM

SUNRISE - 7:14AM | SUNSET - 7:24PM



EXISTING 4 STORY TOWER



PROPOSED 8 STORY TOWER

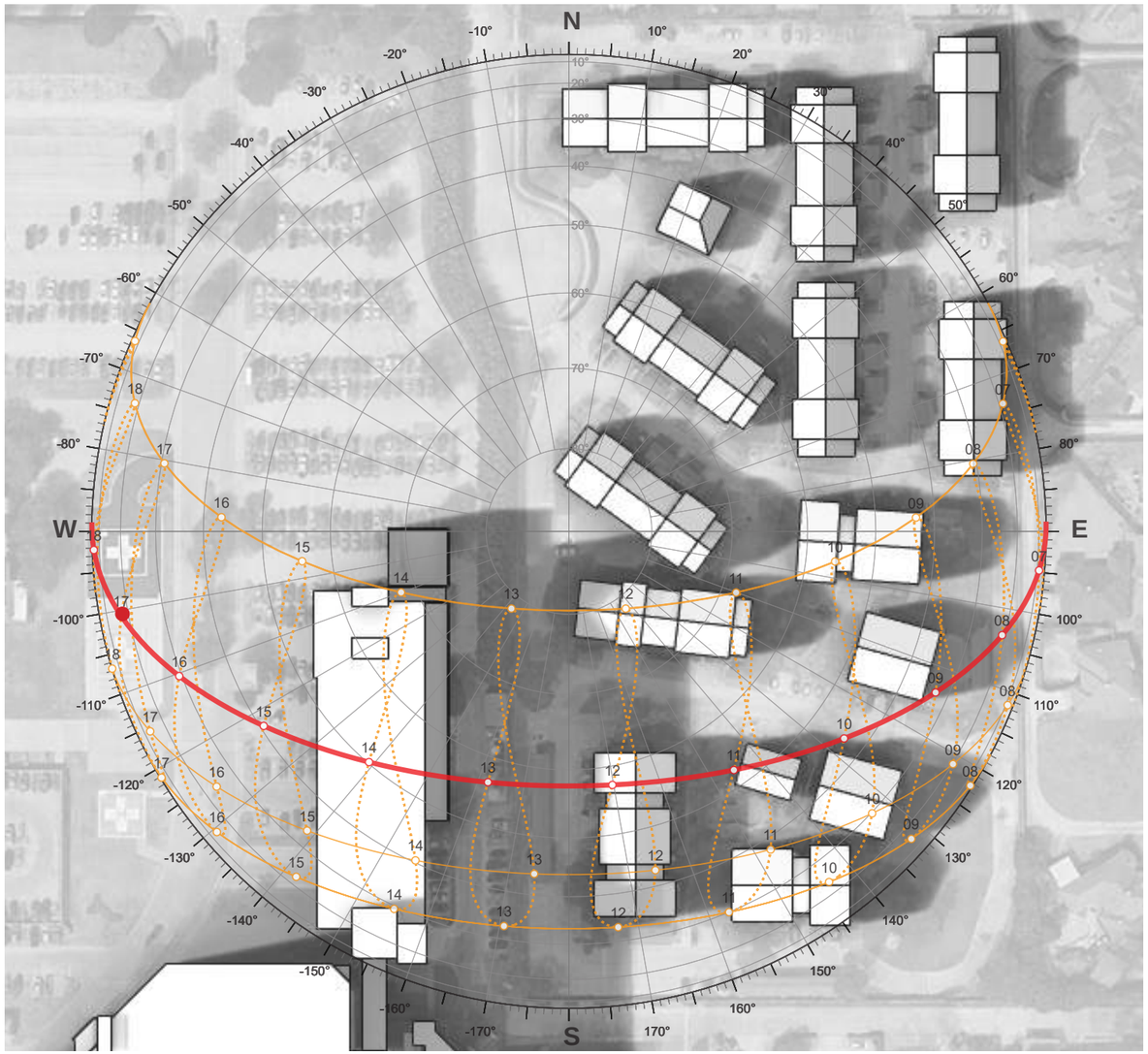
HCA Healthcare

Perkins&Will

SHADOW STUDY

SEPTEMBER 21ST @ 5PM

SUNRISE - 7:14AM | SUNSET - 7:24PM



EXISTING 4 STORY TOWER

PROPOSED 8 STORY TOWER

HCA Healthcare

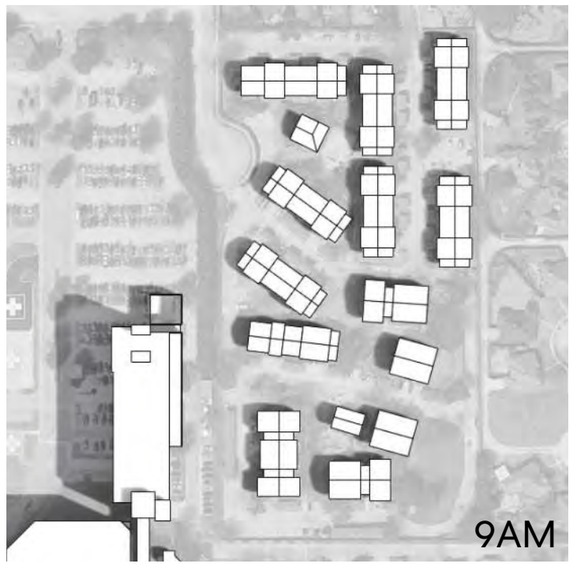
Perkins&Will

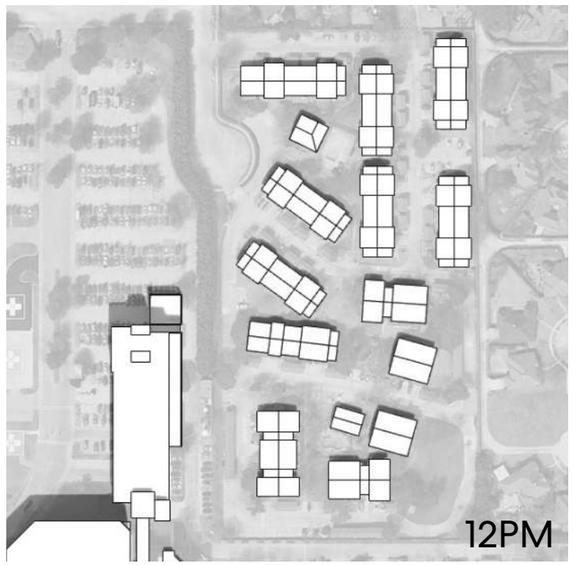
SHADOW STUDY

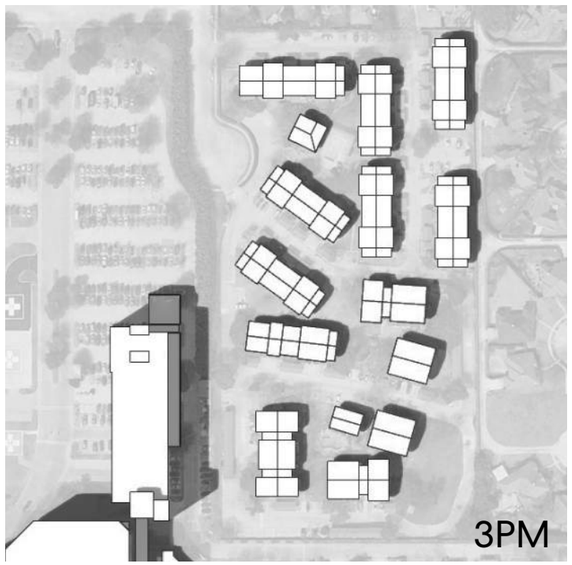
SEPTEMBER 21ST SUMMARY

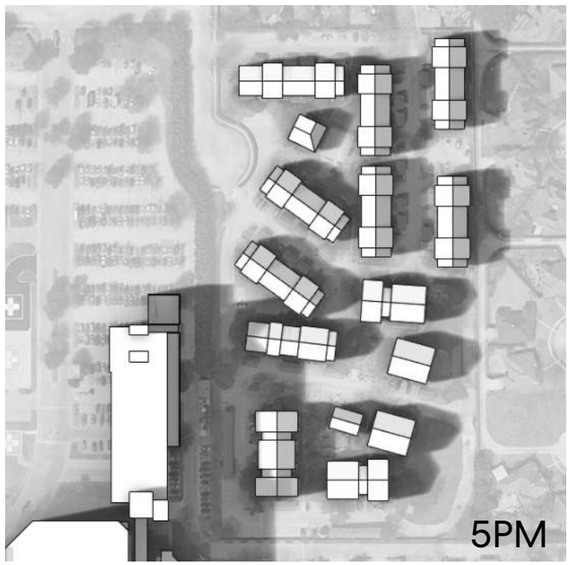
SUNRISE - 7:14AM | SUNSET - 7:24PM

EXISTING 4 STORY TOWER









PROPOSED 8 STORY TOWER

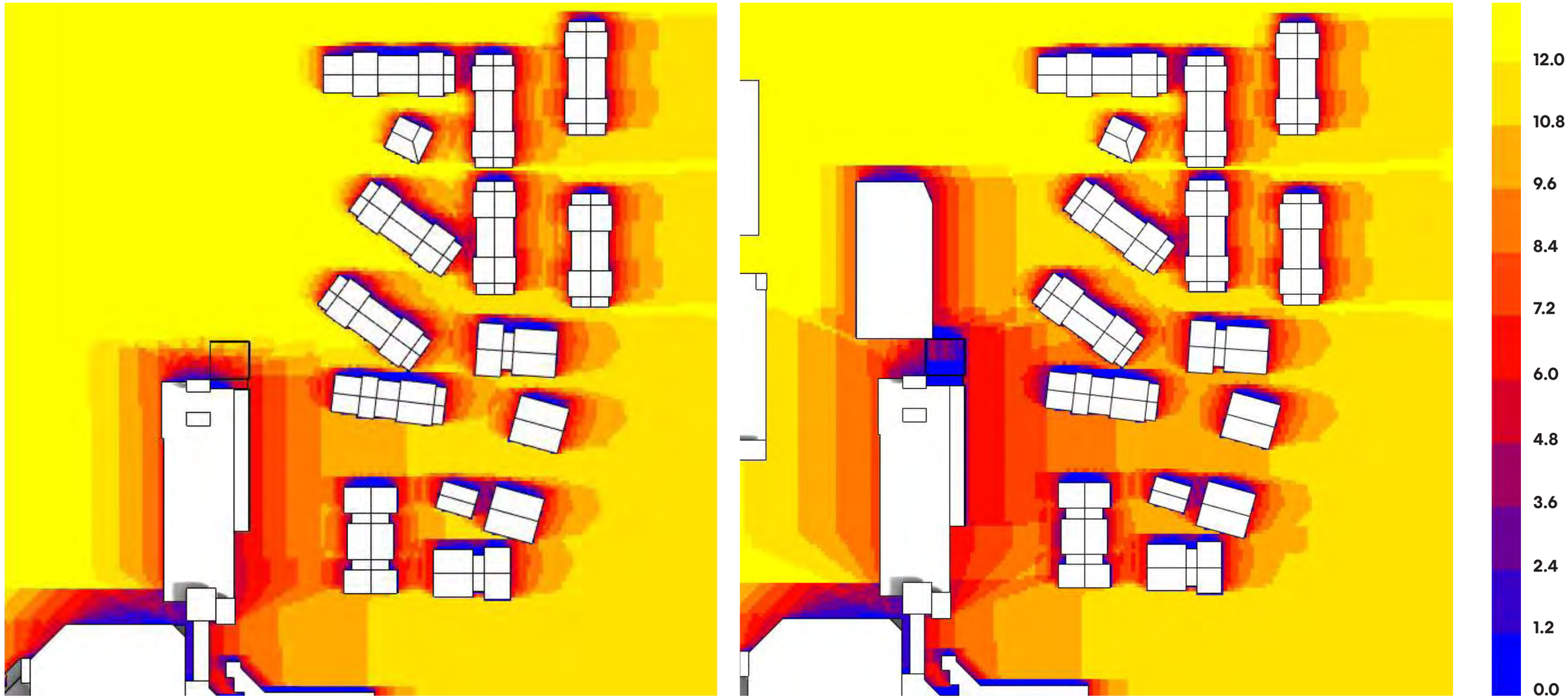
HCA Healthcare

Perkins&Will

DIRECT SUN HOUR STUDY

SEPTEMBER 21ST

SUNRISE - 7:14AM | SUNSET - 7:24PM



EXISTING 4 STORY TOWER

PROPOSED 8 STORY TOWER

HCA Healthcare

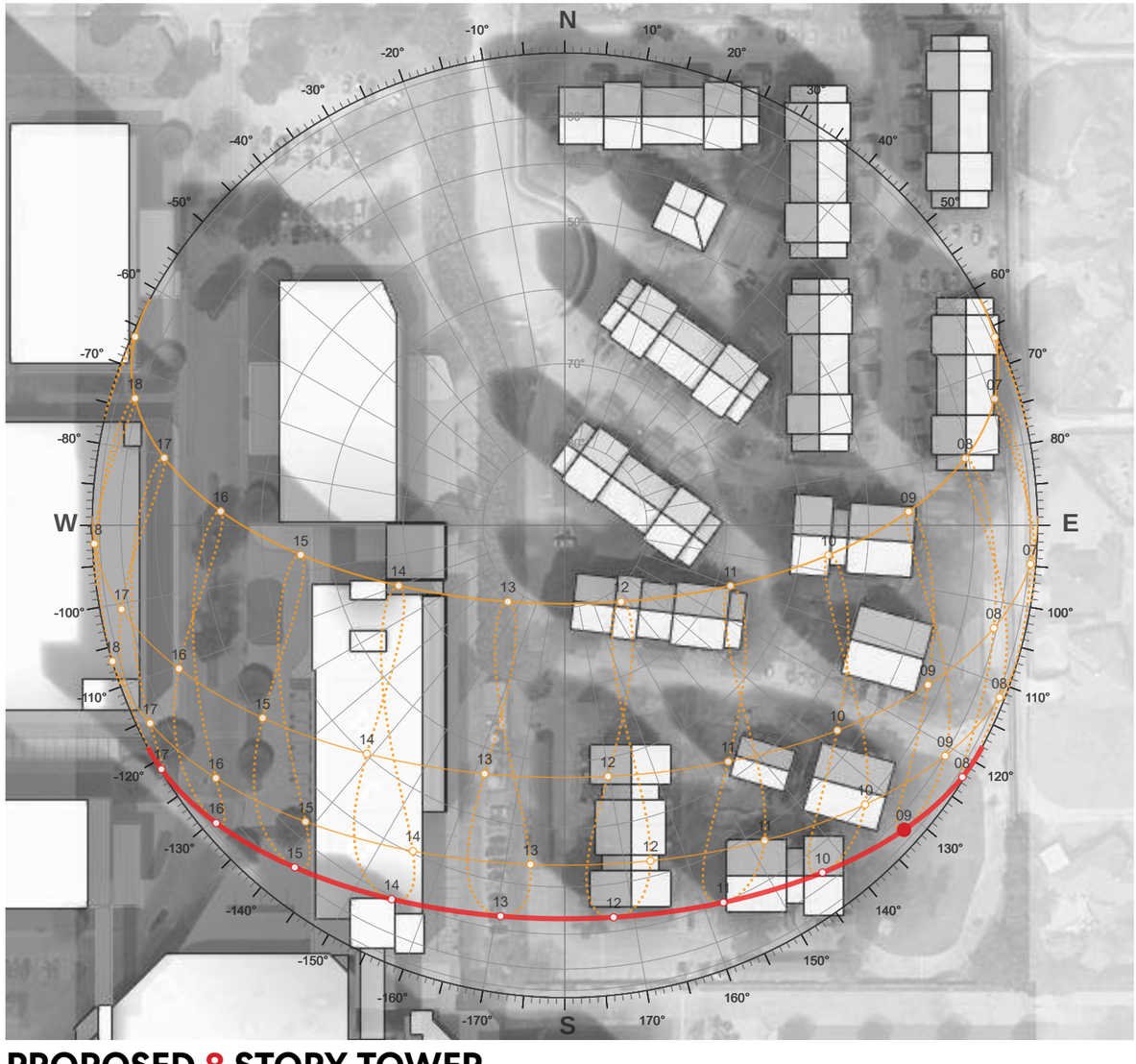
Perkins&Will

SHADOW STUDY

DECEMBER 21ST @ 9AM

SUNRISE - 7:25AM | SUNSET - 5:24PM

EXISTING 4 STORY TOWER



PROPOSED 8 STORY TOWER

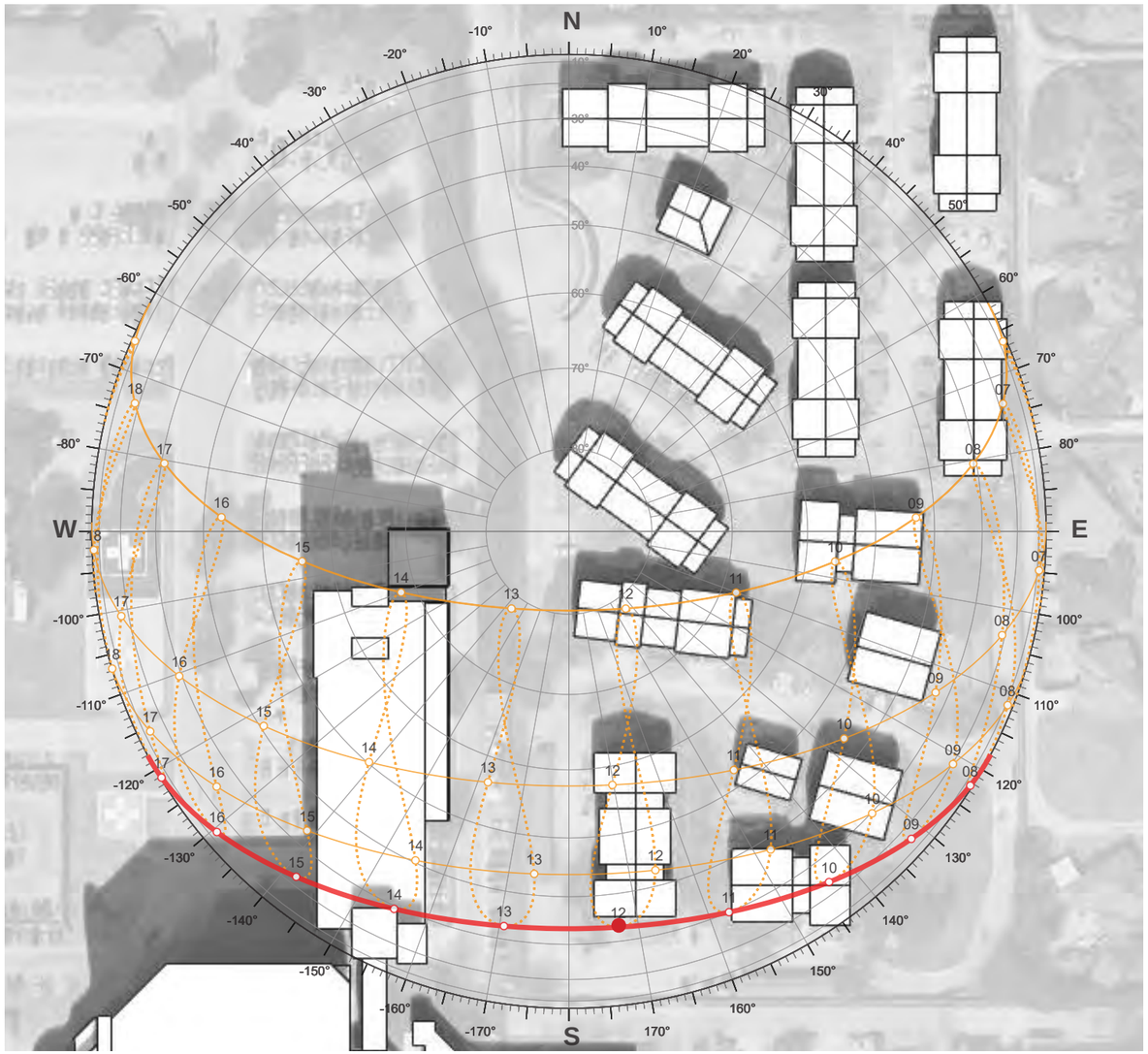
HCA Healthcare

Perkins&Will

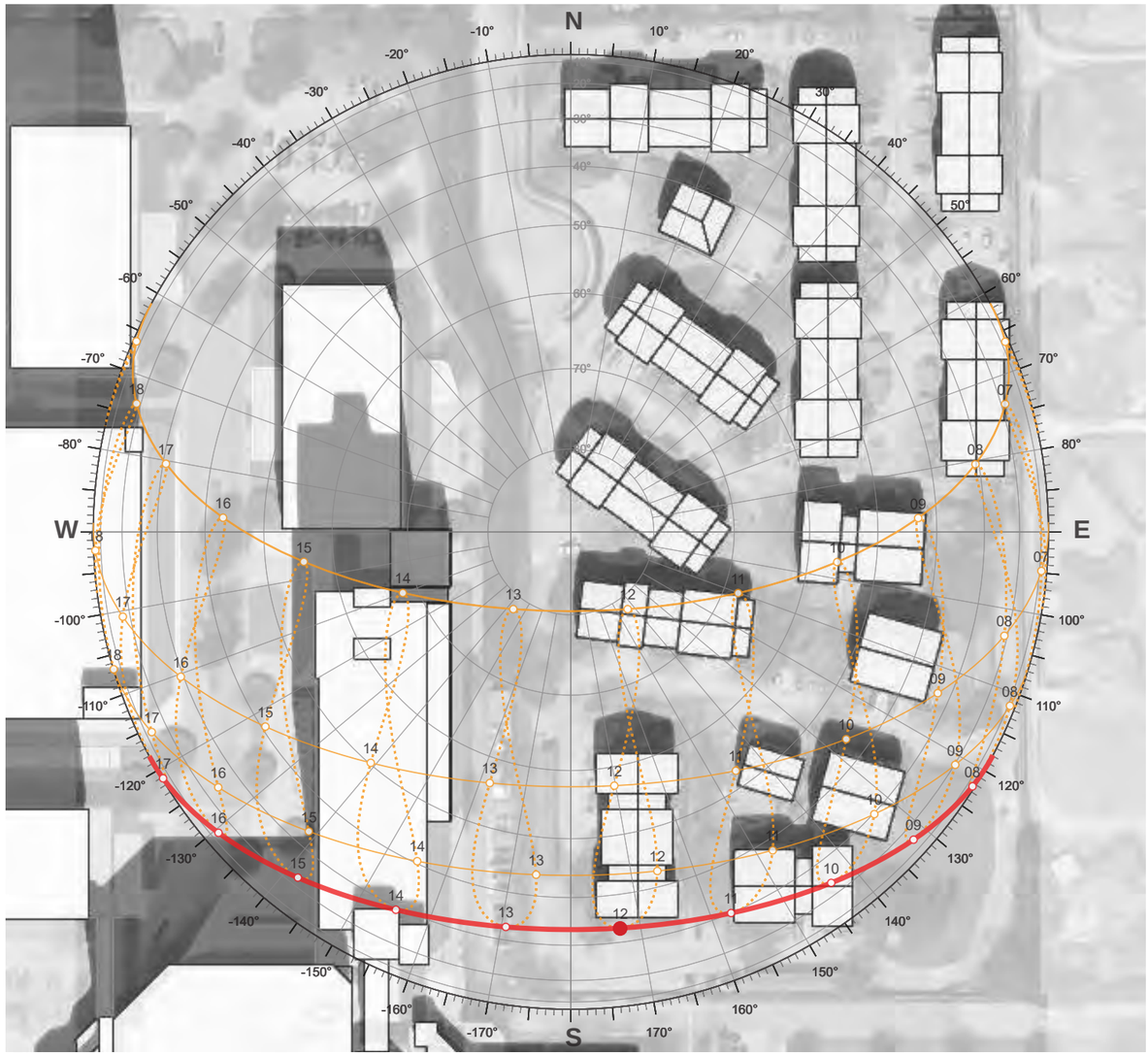
SHADOW STUDY

DECEMBER 21ST @ 12PM

SUNRISE - 7:25AM | SUNSET - 5:24PM



EXISTING 4 STORY TOWER



PROPOSED 8 STORY TOWER

HCA Healthcare

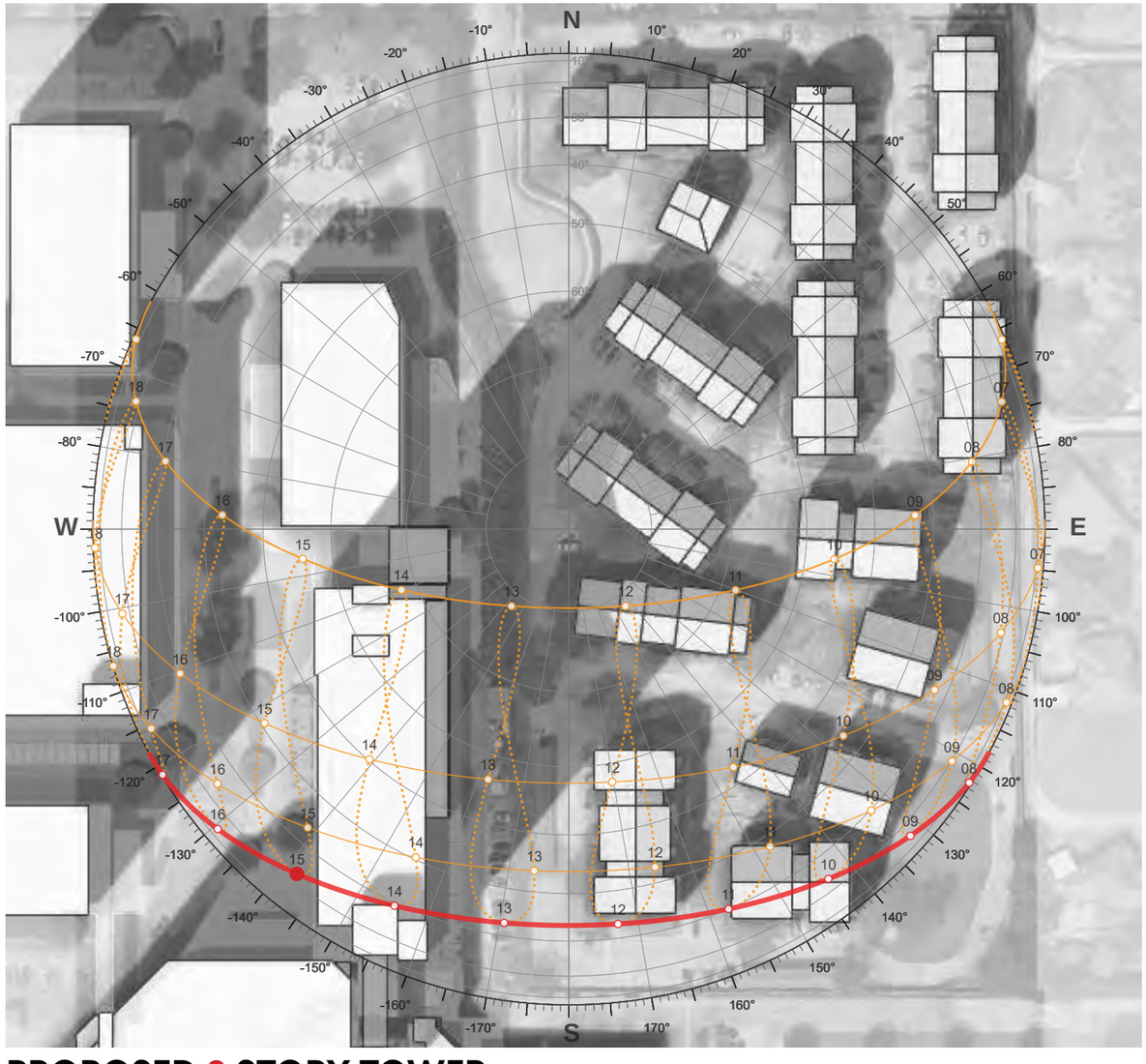
Perkins&Will

SHADOW STUDY

DECEMBER 21ST @ 3PM

SUNRISE - 7:25AM | SUNSET - 5:24PM

EXISTING 4 STORY TOWER



PROPOSED 8 STORY TOWER

HCA Healthcare

Perkins&Will

SHADOW STUDY

DECEMBER 21ST @ 5PM

SUNRISE - 7:25AM | SUNSET - 5:24PM

EXISTING 4 STORY TOWER

PROPOSED 8 STORY TOWER

HCA Healthcare

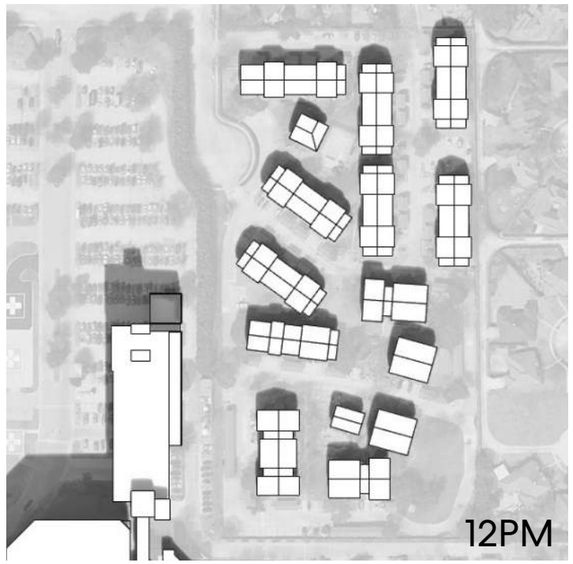
Perkins&Will

SHADOW STUDY

DECEMBER 21ST SUMMARY

SUNRISE - 7:25AM | SUNSET - 5:24PM

EXISTING 4 STORY TOWER



PROPOSED 8 STORY TOWER

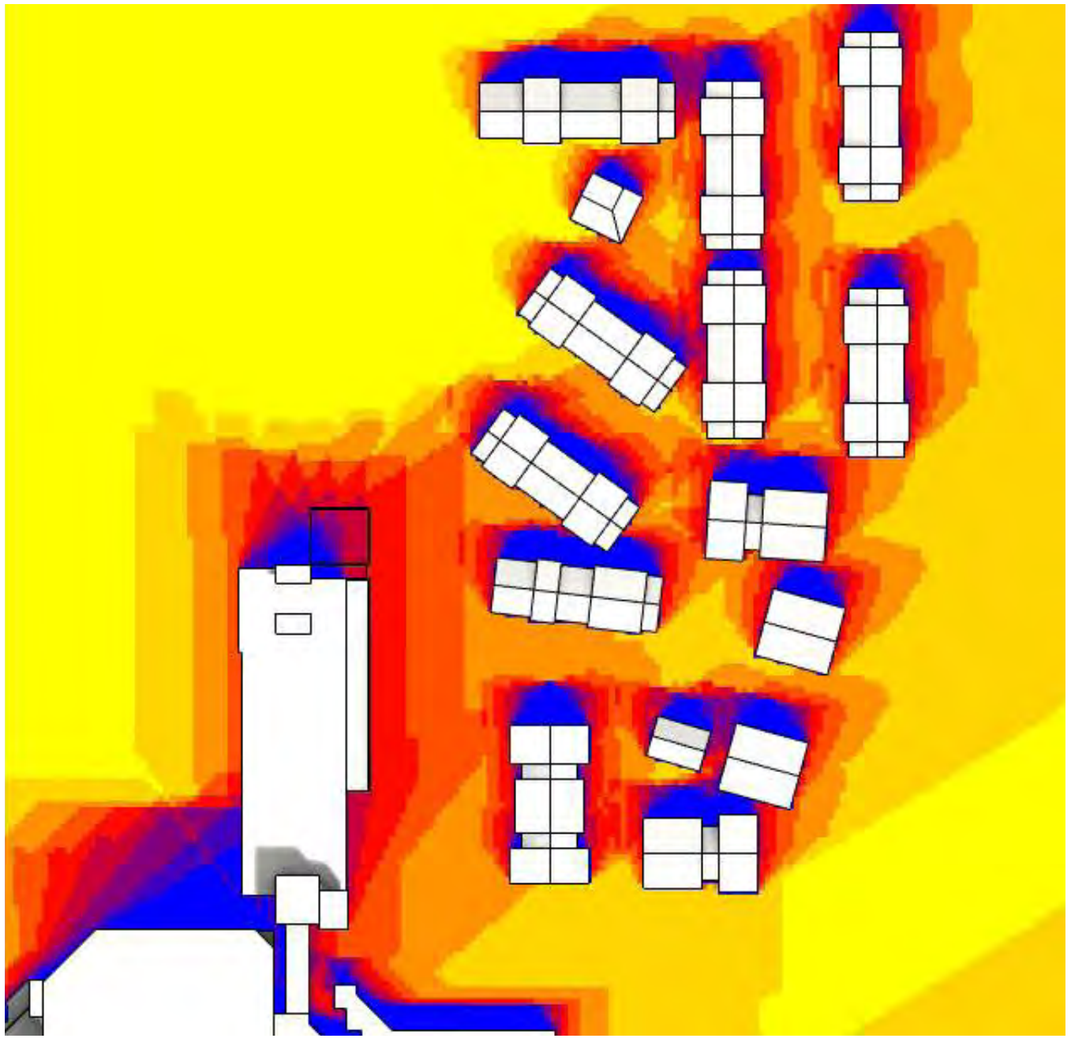
HCA Healthcare

Perkins&Will

DIRECT SUN HOUR STUDY

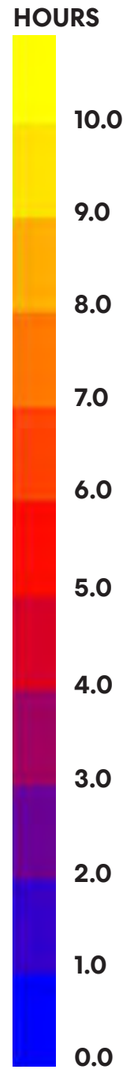
DECEMBER 21ST

SUNRISE - 7:25AM | SUNSET - 5:24PM



EXISTING 4 STORY TOWER

PROPOSED 8 STORY TOWER



HCA Healthcare

Perkins&Will

THANK YOU

Perkins&Will

Petitioner Study #7 - Helicopter Noise Analysis

Since 1935 LLC

CONSULTANTS IN ACOUSTICS, SOUND REINFORCEMENT, & AUDIOVISUAL SYSTEMS

4245 NORTH CENTRAL EXPRESSWAY, SUITE 600 DALLAS, TEXAS 75205 voice: 214.584.6124 www.baiaustin.com

MEDICAL CITY PLANO

PLANO, TEXAS

HELICOPTER NOISE ANALYSIS REPORT

SUBMITTED TO:

Perkins & Will

December 6th, 2021

INTRODUCTION:

Perkins and Will retained BAi to perform calibrated sound pressure level measurements of the medevac helicopter during take-off and landing events at Medical City Plano. Measurements were recorded on Monday, November 15th, 2021. Two events were recorded at 2 different locations, simultaneously: one near the helipads and one at the property line. The first event was a standard approach and landing of an actual medevac arrival. The second event was pre-planned take-off, hover, circle, approach, and landing.

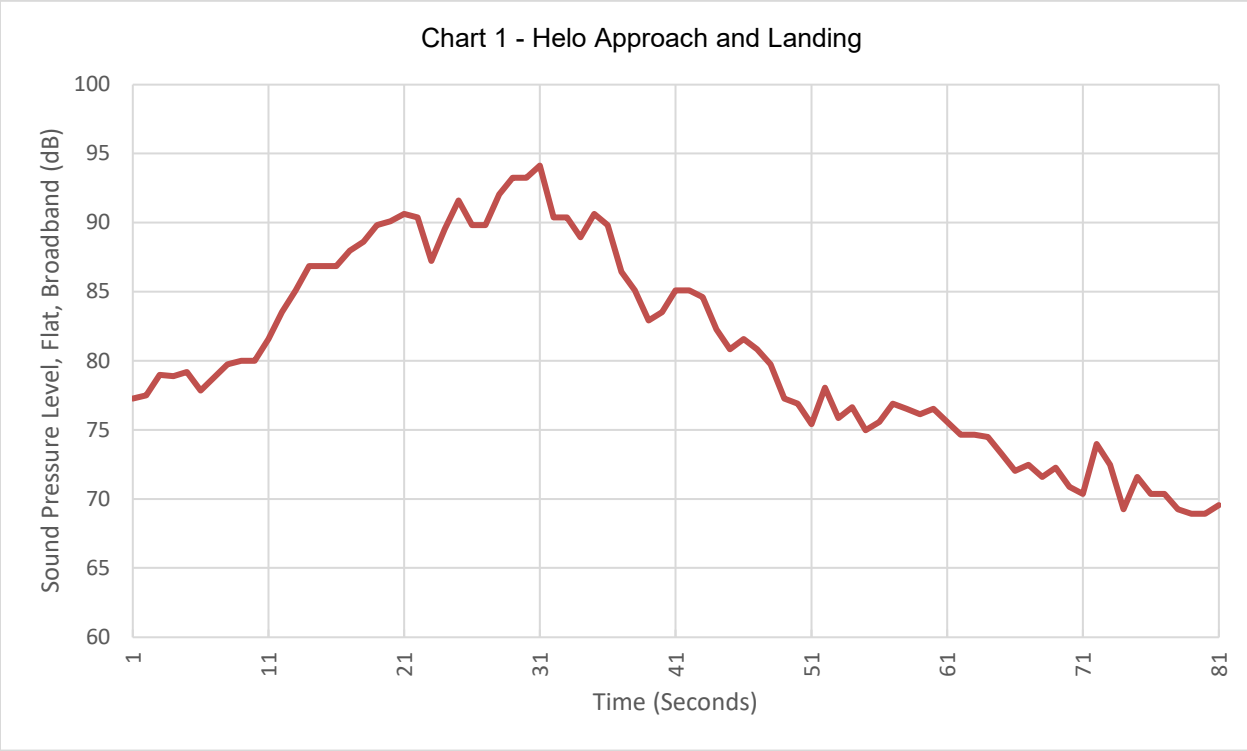
MEASUREMENT DETAILS:

- Measurements were conducted with a calibrated, Norsonic type 1 analyzer. BAi calibrated the analyzer prior to each measurement period and verified calibration following each period.
- Measurements were taken with the following settings:
    - Flat (unweighted)
    - Fast response
    - 1-second equivalent sound pressure levels
- Helicopter
    - FAA Registry Number: N465P
    - Bell model 407
    - Year Manufactured: 2014
    - Engine: Rolls-Royce model 250-C47B
- Weather Conditions:
    - Temp: 75°F - 80°F
    - Wind: 5mph to 8 mph from the South
    - Clear with 40%-60% Humidity

MEASUREMENT #1:

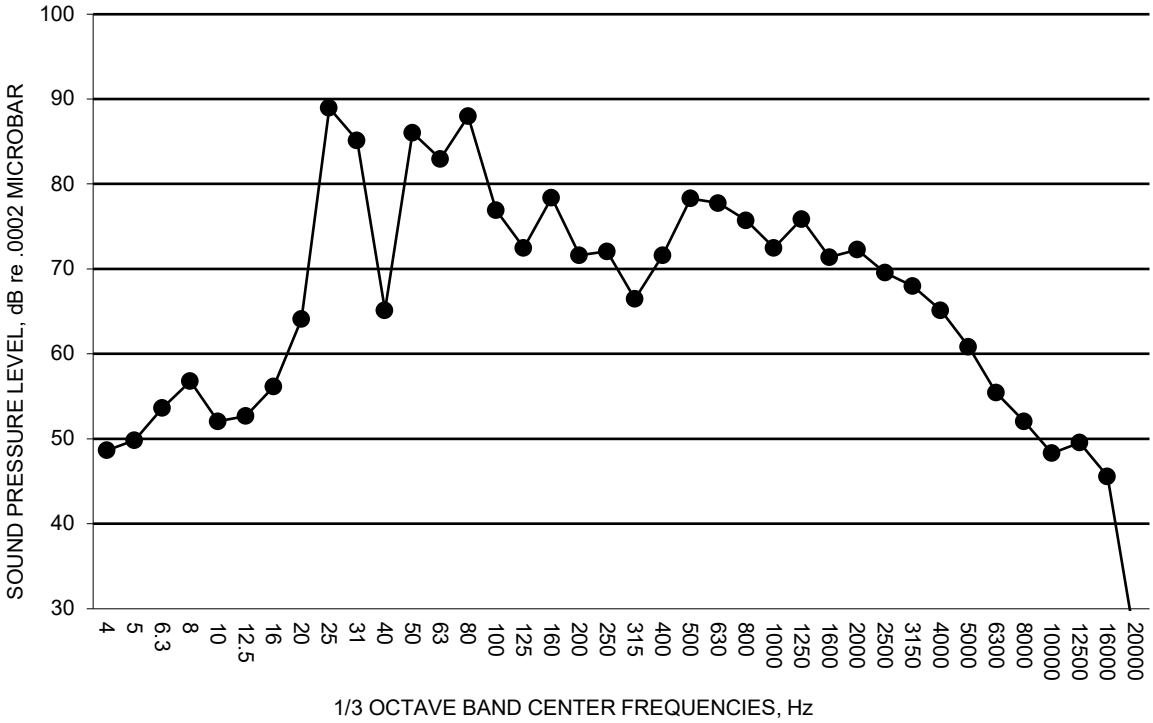
The purpose of this measurement is to establish the existing sound pressure levels at the property line on the east side of the site. A location along the property line was chosen that provides line of sight along the entire approach path and landing on the furthest South helipad. This measurement represents the location with the maximum sound pressure level for the longest period of time, i.e., worst case noise levels. Refer to attached site plan for Measurement Location #1, flight path on approach, and landing location.

The following chart represents the broadband, unweighted, sound pressure level during the entire approach, landing, and rotor slowdown once on the ground.



The maximum sound pressure level of 94 dB at 31 seconds occurs when the helicopter is on the approach path exactly perpendicular from the measurement location on the property line. The following chart shows the 1/3 Octave Band Frequency Sound Pressure Levels at the 94 dB maximum.

Chart 2 - 1/3 Octave Band Levels at Max 94 dB

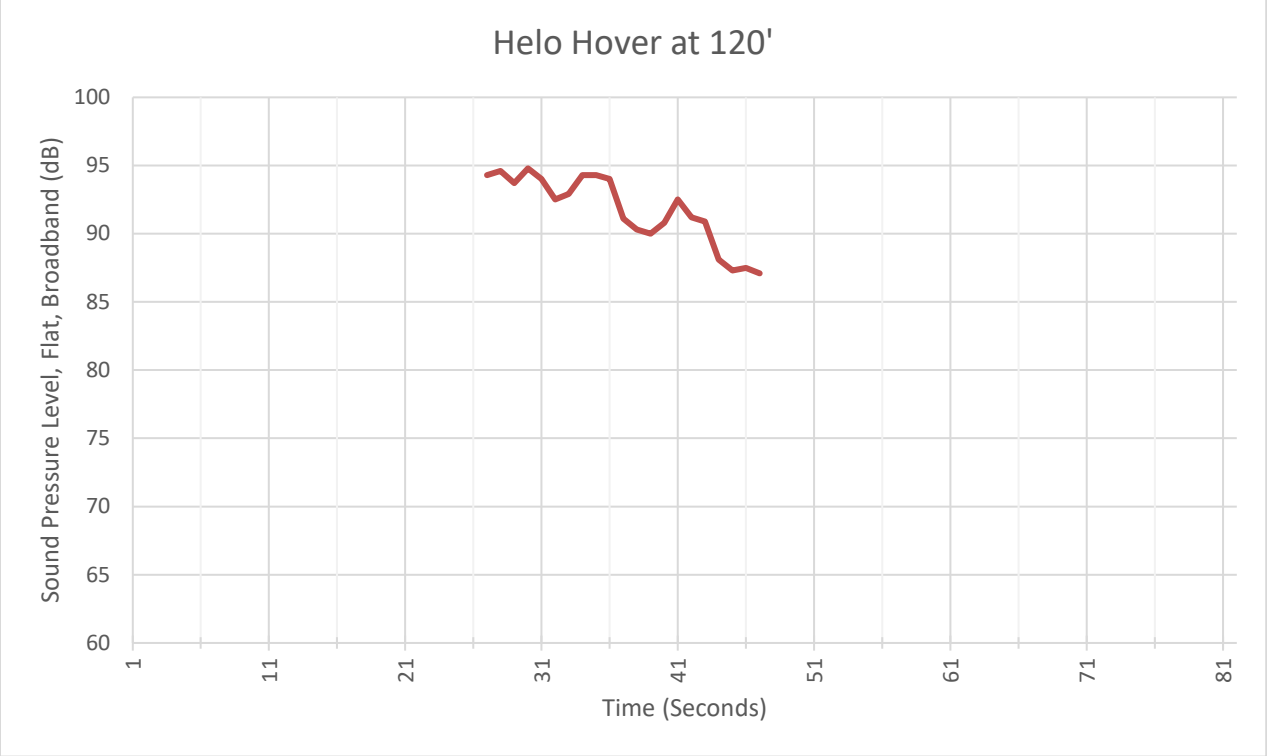


MEASUREMENT #2:

The purpose of this measurement was to simulate the sound levels at the property line when a helicopter lands on a helipad on the roof of the future 8 story addition. After take-off, the helicopter hovered at a location near the northern most helipad (see attached site plan). After 8-10 seconds of hovering, the helicopter proceeded to leave the area towards the southeast. Recordings were taken at Measurement Location #2. The distance between the hover location and the measurement location approximates the distance between the future rooftop helipad and the property line on the east.

Chart 3 shows the broadband unweighted sound pressure level during the hover event. It is shown on the same scale and timeline as Chart 1 for ease of comparison. The measurements start as the helicopter is elevating to its final hover location. From 25 to 35 seconds, the helicopter is stationary at approximately 120' above the ground. From 35 seconds on, the helicopter is moving away from the site towards the southeast.

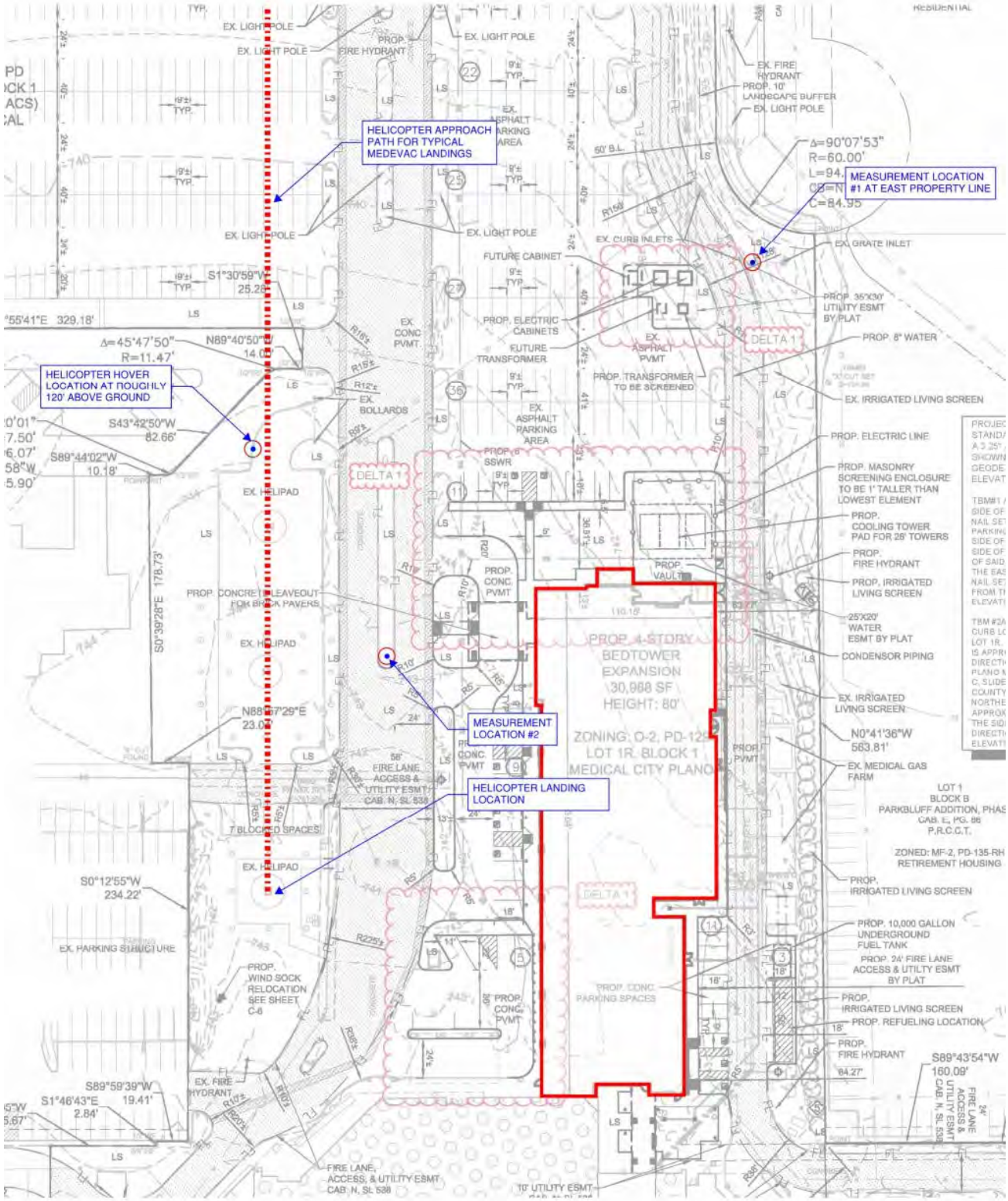
The sound pressure level, while hovering at 120', is between 93 dB and 95 dB.



CONCLUSIONS / ANALYSIS:

- Increases in Sound Pressure Level generally align with the following subjective interpretations:
    - 3 dB: Just Noticeable
    - 6 dB: Clearly Noticeable
    - 10 dB: Twice as Loud
- Our existing baseline maximum sound pressure level is 94 dB at the property line. Based on Measurement #2, we expect to see a slight increase in sound level (95 dB) at the property line as the helicopter elevates off the rooftop helipad. The 1 dB increase will not be, or just barely be, perceptible on a subjective scale.
- The measurements with the hovering helicopter do not consider any shielding the rooftop provides from the property line as the helicopter approaches and lands on the rooftop helipad. Approaching from the west will increase this shielding affect and decrease the amount of time the properties to the east hear elevated noise levels.

SITE PLAN:


HELICOPTER APPROACH PATH FOR TYPICAL MEDEVAC LANDINGS
MEASUREMENT LOCATION #1 AT EAST PROPERTY LINE
HELICOPTER HOVER LOCATION AT ROUGHLY 120' ABOVE GROUND
MEASUREMENT LOCATION #2
HELICOPTER LANDING LOCATION
PROP. 4-STORY BEDTOWER EXPANSION 30,988 SF HEIGHT: 80'
ZONING: O-2, PD-125
LOT 1R, BLOCK 1
MEDICAL CITY PLANO
EX. HELIPAD
EX. PARKING STRUCTURE
PROP. WIND SOCK RELOCATION SEE SHEET C-6
7 BLOCKED SPACES
PROP. CONCRETE LEAVEOUT FOR BRICK PAVERS
PROP. 10,000 GALLON UNDERGROUND FUEL TANK
PROP. 24' FIRE LANE ACCESS & UTILITY ESMT BY PLAT
PROP. REFUELING LOCATION
PROP. CONC. PARKING SPACES
FIRE LANE, ACCESS, & UTILITY ESMT CAB. N, SL 538
10' UTILITY ESMT
EX. LIGHT POLE
PROP. FIRE HYDRANT
EX. FIRE HYDRANT
EX. CURB INLETS
EX. GRATE INLET
EX. IRRIGATED LIVING SCREEN
PROP. ELECTRIC LINE
PROP. MASONRY SCREENING ENCLOSURE TO BE 1' TALLER THAN LOWEST ELEMENT
PROP. COOLING TOWER PAD FOR 28' TOWERS
PROP. VAULT
PROP. IRRIGATED LIVING SCREEN
25'X20' WATER ESMT BY PLAT
CONDENSOR PIPING
EX. MEDICAL GAS FARM
PROP. 8" WATER
PROP. 35'X30' UTILITY ESMT BY PLAT
PROP. TRANSFORMER TO BE SCREENED
FUTURE CABINET
FUTURE TRANSFORMER
PROP. ELECTRIC CABINETS
EX. BOLLARDS
EX. ASPHALT PARKING AREA
EX. CONC PVMT
EX. ASPHALT PVMT
PROP. SSWR
PROP. CONC. PVMT
PROP. 10' LANDSCAPE BUFFER
Δ=90°07'53"
R=60.00'
L=94.
C=84.95
S1°30'59"W
25.26'
Δ=45°47'50"
R=11.47'
N89°40'50"W
14.0
S43°42'50"W
82.66'
S89°44'02"W
10.18'
178.73'
S0°39'28"E
N88°57'29"E
23.0
S0°12'55"W
234.22'
S89°59'39"W
19.41'
S1°46'43"E
2.84'
N0°41'36"W
583.81'
S89°43'54"W
160.09'
84.27'
329.18'
DELTA 1
LOT 1
BLOCK B
PARKBLUFF ADDITION, PHAS
CAB. E, PG. 86
P.R.C.C.T.
ZONED: MF-2, PD-135-RH
RETIREMENT HOUSING

FEC Heliports *design, manufacture, install…we do it all!!*

Medical City Plano Rooftop Helipads

Since 1996 FEC Heliports has designed, manufactured and installed more rooftop helipads than any other company worldwide. To date FEC Heliports has been fortunate enough to design over 450 rooftop helipads. The majority of these designs have been at US Hospitals and all of them have been designed to meet or exceed the FAA Advisory Circular 150/5390 on Heliport Design. This AC is in place to establish standards and uniformity in design and construction for not only rooftop helipads but ground and offshore locations as well.

Pilots operate best in familiar environments, the unknown is what causes accidents. This is why it is so important to design around the current FAA AC at all times. The AC addresses all the key safety issues such as proper clearances, proper approach departure angles, proper safety equipment such as NVG compatible lighting, proper fire suppression and fuel containment and many many more design considerations.

FEC Heliports has reviewed the initial plan for the Medical City Plano rooftop location and feels comfortable when that when completed it will meet or exceed all the current and future FAA AC guidelines. The pads will be properly sized and spaced and the hospital has picked the safest location available which is on the available rooftop.

Why is the rooftop the safest location and why is multiple pad design best for this location? Rooftop helipads are far and away the safest locations for many reasons and here are a few of the most important.

- No Obstructions-Rooftop helipads when designed to the FAA AC eliminate all of the natural obstructions of a ground based design such as People, moving vehicles (a semi is nearly 14' tall), trees, signage, power lines and power poles, adjacent buildings
- Security- Helicopters on the rooftop can only be approached by approved and trained personnel. No civilians can get near any moving rotor blades and they are shielded from the rotor wash created during take offs and landings.
- Noise- There are many studies that show that rooftop helipads are significantly more quite than ground based designs. Commons sense tells you that something making

noise at ground level will be much less noticeable when elevated several hundred feet in the air. In addition, there is less objects on rooftop helipads for noise to bounce off and create additional ambient sound. The wind and proper FAA AC design also contribute to less noise. At rooftop locations the wind is typically greater and more consistent which is good news for Pilots. When they land into the wind it takes less power and that equals less noise. The sound is typically moved and altered more quickly in windy environments as well. Rooftop locations with no obstructions and proper flight path design allow the Pilots to approach and depart at steeper angles meaning they are at the location for a shorter period of time reducing the time of the maximum noise output. This hospital has been smart enough to design multiple helipads at the rooftop level to eliminate the largest opportunity for disruptive noise which would be circling helicopters waiting for an open landing pad and allowing helipads to shut down to reduce noise as well.

Let me directly address a couple of the items in a recent PowerPoint presentation I reviewed that was created by Mr. Robert Ditchey for the Planning and Zoning Commission. While I do not know Mr. Ditchey personally it is extremely clear that he is a very qualified and experienced voice in the aviation community.

Slide #8 Crowded Sky Above Plano-The Dallas Fort Worth airspace is undoubtably a busy place. But this just reinforces why it is so important to design around the FAA AC. Per the AC the hospital will submit at the proper time a 7480-1 document asking the FAA to review the proposed airspace. The FAA does this for all private and public airports and heliport and checks the proposed airspace for any problems or interference with the surrounding area. While they do not offer an "approval" they do issue a letter of No Objection if everything is positive in the review.

Slide #11 Downwash is Dangerous- Mr. Ditchey is correct downwash can be dangerous but this is not the case in this type of design. The picture shown is a very large military helicopter hovering at extremely low altitude over water. There will be nobody laying under the EMS Helicopters while they are landing or taking off at this location. In fact, as previously described the rooftop locations do a great job of eliminating the rotor wash impact to any surrounding area. Anyone standing on grade directly under the approach departure path of this location will likely never

even feel ay rotor wash and if they do it will not be enough to mess up their hair or remove a baseball hat. The elevated helipad will dissipate the rotor wash as it rolls out horizontally and even those at helipad level will not be adversely impacted. The other eliminate of this rooftop design is that it will be elevated at or above the FAA recommended height above the roof to allow airflow both over and under the helipad which helps to dramatically reduce and even eliminate turbulence around the perimeters of the helipad.

Slide #13 Never Fly Above or Below another Helicopter- There is absolutely nothing in this design to suggest or promote this statement. As previously stated, the multiple landing pad design is a benefit to the surrounding area in many aspects mostly noise. There will be no helicopters flying in pattern around the hospital waiting for an open spot to land. There are also no plans to have simultaneous take offs and landings at this location.

Slide #15 Discussing Noise- What is conveniently eliminated from this slide is the details. Details regarding where and how the noise levels described were measured. Noise and sound are a very subjective issue for example if you are down wind from a particular noise, it will be louder then if you are upwind. The time of day, the temperature the humidity and if you can see the source of the noise also all play apart in if you think it is too loud. Once again, the hospital by designing around the FAA AC and elevating the helipads has done everything it can to reduce any adverse noise footprint on the community.

Slide #16- This accident as summarized in the NTSB report referenced says nothing about the design or rooftop location of the helipad contributing to this incident. As stated thankfully the Pilot and all passengers literally walked away from this accident and there was no fuel spill or fire as a result. Further emphasizing the continued safety improvements in helicopter designs.

Thank you for the opportunity to provide you this information and should anyone have any further questions please do not hesitate to contact me directly at either my email address tom@fecheliports.com or my direct line at 513-864-8014.

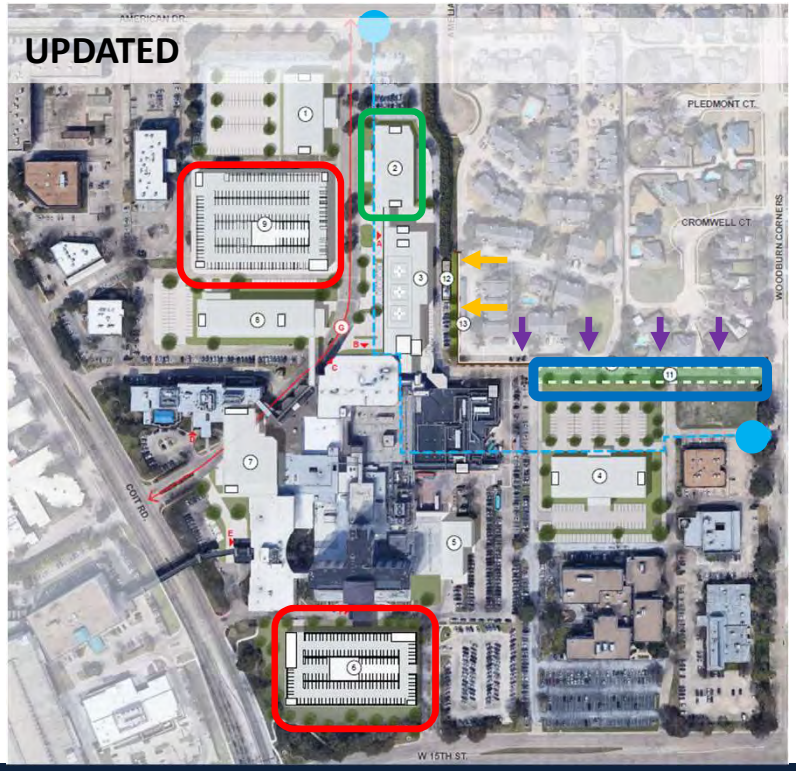
Best regards,

Thomas A Schuman II
Owner/President

Petitioner Study #9 - Changes Made from Resident Feedback

Changes Made from Neighborhood Feedback

1. Parking Garage was relocated to front of hospital and land purchased west of C Tower for garage location
2. Green space was added to create buffer between hospital and residential area, and reduce disruptive through traffic of trucks to MCP receiving dock
3. MCP is committed to replacing the fence along the entirety of the property, based on resident request and feedback
4. A retaining wall/berm will be installed along with additional green screening to increase buffer between Aspen Court and MCP
5. Residential buffer line was added where no other buildings beyond C Tower will be allowed to increase to 8 stories in the future
6. Building 2, Future Mob was decreased from 5 stories to 2 stories to protect neighboring residents
7. Tower expansion at original #4 was removed to allow for Residential Buffer Line



Petitioner Study #10 - MCP Master Plan

Information Gathering and Feedback Sessions Executive Summary

In order to share our campus master plan and gain insight and feedback on concerns from neighboring residents, Medical City Plano leadership held a series of meetings while preparing zoning application plans. The meeting and feedback are detailed below. Overall, significant changes were made to the plan, to include relocation of the major parking garage from the east side of the campus to the west side and expanding parking to the south.

Meeting with Aspen Court Apartments Representatives

MCP reached out to and a meeting was held with representatives from the Aspen Court Apartments on Monday, November 29, 2021 to share campus growth needs and the intent to file zoning application. The drafts of the master plan drawings were shared.

The representatives expressed concern around the addition to the C Tower and specifically around the helipads being relocated to the roof of the 8 stories. Discussion centered around the concern about a potential increase in noise levels due to the helipad relocation.

> *As a takeaway from this meeting, MCP leadership sought out a sound study to be performed on the campus by a sound engineer, in order to gain further insight into the potential effects of the future location on the relative noise levels. The sound study showed that there would be relatively no increase in noticeable noise levels (dB) with the relocation of the helipads onto an eight-story roof. Additionally, due to the height and no car/pedestrian traffic, the roof location would provide a decrease in sound duration, as no hovering and waiting would be required by pilots when coming in to land. The sound study did not consider any potential rebounding of sound waves upward by the eight-story roof; therefore, there is potential for a decrease in noticeable noise level along with the shortened duration of noise.*

Neighboring Residents Feedback Sessions

The MCP leadership team held two open forum informational sessions with neighboring residents, in order to introduce the upcoming zoning application, engage in dialogue around the master plan, and receive feedback regarding the upcoming growth. Invite attached.

During the feedback sessions, MCP leadership presented the project background and reviewed the current draft of the master plan drawings with the attendees. Review included overview of the campus history and current/upcoming expansion needs.

Meeting #1 – Monday, November 29, 2021

> Following the presentation, overall dialogue and feedback focused around the locations of the garage and C Tower expansion. While some in attendance were completely supportive of the original plan, other residents had the following concerns:
>
> - Proximity of parking garage location to the neighboring residential homes and privacy
> - Concern that the relocation of the helipads to the roof of C Tower would result in an increase in noise. MCP leadership shared that we were in the process of seeking out a

sound study for further insight on potential impact, but that results were not available at that time
- Several residents requested MCP heighten the existing wall along Medical Ave between the properties in order to limit view in both directions (10 ft. height requested)

Meeting #2 – Wednesday, December 1, 2021

All neighboring residents in attendance were supportive of the overall master plan and locations of the proposed future expansions. Following the presentation, dialogue with those in attendance focused around timeline and inquiry around how to best support the upcoming application. In addition:

- Positive feedback on placing helipads on C Tower roof, as it would reduce time that the helicopters are in flight
- Recognition and positive feedback of the location providing best access to care for high acuity patients
- Flight patterns by the helicopter pilots were noted to be better now than they were before the first C Tower expansion

Additional Meetings and Compromise

Following the sessions, several follow-up meetings were held with Mr. Hiren Patel and Mr. Royse Clayton, who stated that they would speak on behalf of their neighbors on Cromwell Ct. Mr. Patel and Mr. Clayton shared their concerns around the parking garage, C Tower expansion, and helipad relocation. MCP leadership further shared the reasoning and needs for patients needing high acuity services, as well as limitations for other parts of the campus. The group also discussed the results of the helicopter sound study and how the noise level will be the same or less while the duration of sound will decrease.

Through these discussions, Mr. Patel and Mr. Clayton determined that their biggest concern centered around the location of the parking garage and that if the proposed parking garage were located elsewhere on campus, they would overall be in support of the plans. In addition, they requested a green space buffer between the back of their property line and any parking or buildings on the MCP campus.

Incorporating the feedback, MCP leadership revised the master plan site drawings to remove the originally proposed parking garage on the west side of campus (see #5 on site legend) and relocate parking to garage #10 and garage #7 on the site drawings. In addition, the requested setback green space with tress was added at #12. Overall, we feel that these changes still allow us to meet the needs of our patients, visitors, and staff, while respecting the requests of our neighboring residents.

Following additional feedback from the neighboring residents, MCP has made consideration for the concern of additional building height around the surrounding residential area. Additional items have been added in to the drawings in order to provide buffer space: #13 and #14. With these, MCP intends to limit any future additional building height along #14 as a buffer for the neighboring residential area. MCP will also provide a retaining wall/berm and additional greenery at #13 to block the view from both

sides. We hope that these changes will help provide the best experience for our neighbors, while preserving the ability to provide the highest quality care to all who need services at MCP.

Medical City Plano

- PLEASE JOIN US -

Please join us for a neighborhood meeting to discuss future plans for our Medical City Plano Master Plan. We are excited to enhance our facilities to meet the healthcare needs of our community.

As we continually strive to be a good neighbor, we want to host an informational meeting prior to any zoning applications being filed with the City of Plano. We will host two meetings in order to provide you with options (both meetings will cover the same information).

Your input and support is vital to us!

Location:	**Medical City Plano Auditorium** **Suite 315, Medical Office Building 3** **4001 W 15th St.** **Plano, TX 75075**
Dates:	**Monday, November 29th or Wednesday, December 1st**
Time:	**5:30 P.M. to 7:00 P.M.**

If you have any questions in the meantime, please email Elizabeth Greenwood at Elizabeth.Greenwood@MedicalCityHealth.com